UNIV. OF
TORONTO
LIBRARY

ING LIST MAY

Biological
& Medical
Serials

A

THE BRITISH JOURNAL
OF
CHILDREN'S DISEASES

FOUNDED BY GEORGE CARPENTER, M.D.

LIBRARY

EDITED BY
J. D. ROLLESTON, M.D.

VOL. XIV

211010
4:4:27

London
ADLARD & SON & WEST NEWMAN, LTD.,
BARTHOLOMEW CLOSE, E.C.
1917

[*All rights reserved*]

PRINTED BY ADLARD AND SON AND WEST NEWMAN, LTD.

LONDON AND DORKING

RJ
1
B7
V. 14-15

0

THE
BRITISH JOURNAL
OF
CHILDREN'S DISEASES.

VOL. XIV. JANUARY—MARCH, 1917. Nos. 157–159.

Original Articles.

MALFORMATION OF THE ŒSOPHAGUS.

By EDMUND CAUTLEY, M.D. Cantab., F.R.C.P. Lond.

MALFORMATIONS of the œsophagus are of sufficient rarity to make each case worth recording, although it may be of the most common type, as in the present instance. That it is rare is shown by the fact that in the course of twenty-five years of hospital practice, mainly among children, only one case has come under my notice, and curiously this one happens to be in the child of a Belgian refugee. Possibly they are more common than supposed, for I have at present under observation a baby who exhibits in an X-ray photograph distinct dilatation of the lower third of the œsophagus and symptoms of œsophageal stricture. Shukowsky saw only one case in 50,000 newborns.

Morell Mackenzie (1884) collected 62 cases, in a review of the literature extending back to 1670, and added one of his own. On the other hand, Hirschsprung (1892) saw 14 cases, 11 verified post-mortem, and 7 occurred in a Copenhagen lying-in hospital in sixteen years. He saw 4 cases within seven months.

Happich (1905) tabulated 59 cases of the common type. Griffith and Lavenson (1909) found 14 published in the previous six years, 12 of them since Happich's paper. Since then, cases of the common type have been recorded by Brennemann, 3 seen within a year Pollak; Richter (1913), not mentioned by Griffith; Shukowsky and

Baron; Villiard and Le Mée (1907). Cases of other types have also been reported by Morse, Dun, Pritchard and Drew, Rogers, Whipham and Fagge, Rotch, and Umber.

Malformations of this region may be subdivided into various groups, as follows:

I. *Complete absence,* generally associated with gross malformations as in monsters; 8 cases are on record.

(1) Cooper: 'Traité d'Anat. path.,' i., p. 475 (quoted by Griffith and Lavenson).
(2) Heath: 'London Med. Gaz.,' 1840, xxvi, p. 543 (a brief reference only).
(3) Lozach: 'Journ. Univ. des Sci. Méd.,' 1816, iii, p. 187.
(4) Mackenzie: 'Diseases of the Throat and Nose, 1884, ii, p. 217.
(5) Mellor: 'London Med. Gaz.,' 1840, xxvi, p. 542.
(6) Mondière: 'Hufeland's Journal,' 1820, L. ii, p. 123 (quoted by Griffith and Lavenson).
(7) Sonderland: 'Harless's Rheinische Jahrbücher,' 1819, i, p. 198; and 'Hufeland's Journal,' 1820, ii, p. 133.
(8) Tiedemann: 'Anatomie kopfloser Missgeburten' (quoted by Schœller).

II. *Double œsophagus,* with reunion at the lower end, is still more rare. Blasius published one such case. In Kathe's case there appeared to be a narrow supplemental lumen in the wall of the tube.

(1) Blasius: 'Observata anatom. pract. in homine, Ludg. Batav. et Amster.,' 1674, Tab. XV, fig. 6.
(2) Kathe: 'Virchow's Archiv,' 1907, cxc, p. 78.

III. *Diverticula or pouches,* pharyngeal rather than œsophageal, being situated posteriorly at the junction of the pharynx and œsophagus. They are found in later life, more often in men than women, and not in children. Possibly there may be a primary congenital weakness or deficiency of muscle at the point of origin, or they may develop from an imperfectly closed branchial fissure.

IV. *Cysts* have been described by Hebb and H. M. Fletcher. Hebb's specimen is in the museum of the Royal College of Surgeons. It is about 20 mm. in diameter, lined by epithelium like that of the trachea, with a wall chiefly of muscular tissue and mucous membrane. It was obtained from a woman, aged 31 years, who died from heart disease, and was situated in the upper part of the œsophagus, in the angle between it and the trachea, about 1½ in. below the left lobe of the thyroid. It arose during separation of the trachea from the œsophagus.

Fletcher described his specimen, from a girl aged 6 years, who died from pertussis and broncho-pneumonia, as probably a fœtal outgrowth from the œsophagus, not from the bronchus. It was situated behind the right bronchus and in fibrous communication with the trachea, filled with glairy mucus, lined with ciliated epithelium and with a wall of unstriped muscle.

V. *Tracheo-œsophageal fistula,* without other abnormality, is also rare. Apparently only 6 are on record.

(1) Eppinger: 'Path. Anat. d. Larynx u. d. Trachea,' 1880, p. 252.
(2) Lamb: 'Philadel. Med. Times,' 1873, iii, p. 705.
(3) Pinard and Tarnier: 'Bull. Soc. Anat.,' 1873, xlviii, pp. 682, 685 (Pinard); and 'Gaz. des Hôp.,' 1873, xlvi, p. 1099 (Tarnier).
(4) Richter: 'Inaug. Dissert.,' Leipzig, 1792.
(5) Von der Water: 'Inaug. Dissert.,' Leyden, 1857.
(6) Vrolik: 'Tabulæ ad illustrandam embryogen.,' Amst., 1849, Tab. 89, fig. 2.

VI. *Congenital dilatation* was first described by Arnold and by Luschka. It is generally limited to the portion just above the diaphragm, though perhaps not involving about $\frac{1}{2}$–$\frac{3}{4}$ in. of the extreme cardiac end. Zenker reported simple dilatation in a 7-month infant, who died on the seventh day of life. Rotch has recorded it in a girl, 10 weeks old. Regurgitation, vomiting, and wasting came on at 4 weeks of age. She was weaned at 9 weeks, and died from rapid loss of weight and exhaustion. There was a cylindrical dilatation of the last two inches of the œsophagus, with marked atrophy of the mucous membrane and thinning of the walls, and commencing perforation at one spot. Umber records a case of diffuse dilatation of the upper and lower parts of the tube. Most instances of dilatation are secondary to spasm or stricture. A few appear to depend on congenital atony or defect of the wall. Possibly they are analogous to congenital dilatation and hypertrophy of the large intestine. In Blasius's case the dilatation affected the lower three inches of the gullet, just above the diaphragm. Most of the cases occur after infancy. Food is returned some hours after being swallowed, and is alkaline or neutral, and undigested. Pain is induced by the distension and is relieved by vomiting or regurgitation; and the breath may be very offensive from decomposition of retained food.

(1) Arnold: 'Untersuch. im Gebiete f. Anat. u. Phys.,' 1838, p. 211.

(2) Blasius: 'Obs. med. anat. rarior.,' pars. iv, obs. ix. Lugdun. Batav., 1711, p. 53; *ibid.*, p. 113, Tab. VI, fig. 5.
(3) Luschka: 'Virchow's Archiv.,' 1868, xlii, p. 473.
(4) Rotch: 'Pediatrics,' "The Treatment of Children," 1896, ii, 836.
(5) Umber: 'Archiv f. Verd.-Krankheit.,' 1910, xvi, p. 26.
(6) Zenker: Ziemssen's 'Cyclopædia of Pract. Med.,' viii, pp. 47, 51.

VII. *Atresia without fistulous communication with the trachea* is of various types. It may take the form of a localised narrowed portion forming a stricture of varying degree of severity about an inch from the cardiac end; or there may be complete atresia of a portion of the tube, the upper *cul-de-sac* being united by a fibrous cord to the lower third; or a mere trace of this uniting cord is found in the posterior wall of the trachea on microscopical examination.

(*a*) *Atresia or Stricture.*—An upper œsophageal sphincter was noted by Sir Everard Home. It is relaxed on swallowing. Mackenzie states that Blasius recorded the earliest example of simple stenosis; and that Home described some cases of uniform circular contraction behind the cricoid cartilage. Yet Mackenzie was unaware of its existence in early life having been proved by post-mortem examination. Cases of this type have been reported in recent years by Bertram Rogers in a male, aged 22 months old, with a fairly tight stricture about an inch above the diaphragm; Dun, in a male, aged 33 months old, with a short and sudden constriction an inch above the diaphragm; Whipham and Fagge, in a girl, aged 4½ years, with a stricture about an inch above the cardiac end of the stomach, and a history of vomiting after food for nearly all her life; Pritchard and Drew, in a male, aged 2 years old, delicate from birth, subject to vomiting and unable to swallow solid food, with dilatation of the œsophagus between the level of the suprasternal notch and xiphisternum and a stenosed portion below.

The last-mentioned writers refer to 7 previous cases reported in Ziemssen's 'Cyclopedia,' two of them living to the ages of 74 and 84 years. A fair number of other cases are on record, but it is not always clear that they were congenital in origin. Keith (1910), states that there are 4 specimens of non-cicatricial stenosis of the upper end in the museum of the Royal College of Surgeons and 5 in the museums of other London hospitals; 2 cases of stenosis of the mid-œsophagus and 4 of stenosis of the lower end, with dilatation, in London hospital museums; and 2 of stenosis of the lower end in the museum of the Royal College of Surgeons. Rotch reports a stenosis of the lower third in a boy, 25 months old, with vomiting since birth.

(1) Baillie: ‘Traité d’Anat. path.,’ 1903, p. 98.
(2) Bauerfeind: ‘Inaug. Dissert.,’ München, 1893.
(3) Blasius: ‘Observata medica rariora,’ Amst. 1677, iv, Tab. VI, fig. 2.
(4) Brenner: ‘Beitr. z. Chir., Billroth-Festschrift,’ 1892, p. 206.
(5) Crary: Quoted by Kraus, *q. v.*
(6) Cruveilhier: ‘Anat. path. du Corps humain,’ 1835–42, T. II, L. xxxviii, pl. 6; and ‘Traité d’Anat. path. gén.,’ 1849, Tab. II, p. 232.
(7) Demme: Quoted by Korman, ‘Berichte u. d. Jennersche Kinderspital z. Bern.
(8) Dun: ‘Reps. Soc. Dis. in Children,’ 1905, v, p. 218.
(9) Fagge: ‘Guy’s Hosp. Reps.,’ 1872, xvii, p. 413.
(10) Gianella: ‘De Dysphagia. Institut. med. pract.,’ iv, p. 292.
(11) Hirschsprung: ‘Inaug. Dissert.,’ Kopenhagen, 1861; ‘Hospitalstidende,’ 1895, 4 R., iii, 1037.
(12) Keith: ‘Brit. Med. Journ.,’ 1910, i, p. 301.
(13) Mayer: ‘Amer. Journ. Med. Sci.,’ 1893, cvi, p. 567.
(14) Pritchard and Drew: ‘Proc. Roy. Soc. Med.,’ 1912, vi, Child. Sect., p. 33.
(15) Rogers: ‘Reps. Soc. Dis. in Child.,’ 1904, iv, 313; and British Journal of Children’s Diseases, 1904, i, p. 390.
(16) Rotch: ‘Amer. Journ. Dis. Child.,’ 1913, vi, p. 1.
(17) Schneider: ‘Inaug. Dissert.,’ Königsburg, 1900.
(18) Siegert: ‘Inaug. Dissert.,’ Halle, 1856.
(19) Tenon: ‘La méd. éclairée par les sciences phys.,’ Tab. I, p. 301.
(20) Thomas: ‘Birmingham Med. Review,’ 1904, iii, p. 83.
(21) Turner: ‘Trans. Path. Soc.,’ London, 1885, xxxvi, p. 185.
(22) Wadstein: ‘Nord. med. Ark.,’ 1894, N.F. iv, Hft. 4, p. 25.
(23) Whipham and Fagge: ‘Lancet,’ 1905, i, p. 22.
(24) Wilks: ‘Trans. Path. Soc.,’ London, 1866, xvii, p. 138.
(25) Worthington: ‘Med.-Chir. Trans.,’ 1847, xxx, p. 199.
(26) Zenker: ‘Zenker u. Ziemssen, Œsophaguskrankh.,’ Leipzig, 1874, p. 19.

(*b*) *Upper part normal, or forming a cul-de-sac, and the lower portion forming a fibrous cord or more or less completely obliterated.* In Phillips’s case microscopical examination was required to reveal the presence of œsophageal tissue in the posterior part of the trachea.

Non-obliteration of the lumen and union of the two ends by a cord or band; rather more common than the last variety. Cases of these two types have been reported by several observers.

(1) Brodie: 'Bibliotheca medica,' 1810, p. 381 (quoted by Griffith and Lavenson).
(2) van Cruyck: 'Bull. Soc. Méd. d'émulation de Paris,' 1824, p. 23.
(3) Durston: 'Collect. Academ. Part. étrang.,' 1670, Tab. II, p. 283; the first recorded case of malformation of the œsophagus.
(4) Kraus (3 cases): 'Nothnagel's Spec. Path. u. Therap.,' 1902, xvi, p. 93.
(5) Lallemand: 'Thèse de Paris,' 1816.
(6) Lichty: 'Journ. Amer. Med. Assoc.,' 1896, xxvii, p. 430.
(7) Marrigues: 'Mém. de math. Préc.,' Tab. VI, p. 123 (quoted by Happich).
(8) Marsh: 'Amer. Journ. Med. Sci.,' 1902, cxxiv, p. 304.
(9) Pagenstecher: v. Siebold's 'Journ. f. Geburtshülfe, etc.,' 1830, Bd. ix, p. 112.
(10) Phillips (2 cases): 'Arch. of Pediat.,' 1908, xxv, p. 267.
(11) Röderer: 'Fetus parasitici descr. in Comm. Soc. reg. Goetting; ad Annal.,' 1754, Tab. III, p. 113 (quoted by Griffith and Lavenson).
(12) Schœller: 'Neue Zeitsch. f. Geburtsk.,' 1838, vi, p. 264.
(13) Shattock: 'Trans. Path. Soc.,' London, 1890, xli, p. 87.
(14) Steele: 'Lancet,' 1888, ii, p. 764.
(15) Toujan: 'Ann. de Gyn. et d'Obstét.,' 1892, xxxviii, p. 38.
(16) Warner: 'Lancet,' 1839, ii, p. 463.
(17) Weill and Péhu: 'Lyon Méd.,' 1901, xcvi, p. 313.

Morse ('Arch. of Pediat.,' 1912, xxix, p. 485), has reported 3 cases, possibly of this type. A post-mortem examination of one showed an upper pouch, fibrous cord, and reappearance of œsophagus just before it reached the cardiac end of the stomach.

VIII. *Atresia, with the lower end of the œsophagus opening into the trachea, and very rarely into a bronchus.*—The majority of cases are of this type, and remarkably alike in their anatomical appearances. Mackenzie's 63 cases are divisible into the following groups:

A. Type VIII, 40 cases.
B. Similar to Type VIII, but the lower end opening into a bronchus, 3 cases.
C. Type VII, 9 cases; simple blind termination.

D. Type V, 2 cases; tracheo-œsophageal fistula.

E. Membranous obstruction in 3 cases.

F. Complete absence in 5, *plus* extreme general malformation.

Happich tabulates (1905), 59 cases of Type VIII, and states that other malformations were present in 28 of them; and, as mentioned in the earlier part of the paper, others have been reported since, making in all with the present one a total 85

For references see Happich: 'Inaug. Dissert.,' Marburg, 1905, and—

(1) Brennemann: 'Amer. Journ. Dis. Child.,' 1913, v, p. 143 (3 cases in a year).

(2) Dam: 'Rev. Mens. des Mal. de l'Enf.,' 1906, xxiv, p. 453. He classifies cases collected by Legrande into (*a*) Two cases of obstruction by membrane or diaphragm; (*b*) Four cases of an upper *cul-de-sac* and complete obstruction without fistula; (*c*) Forty-two instances of an upper *cul-de-sac* and the lower end of the œsophagus opening into the trachea; and adds two more of this type.

(3) Dickie: BRITISH JOURNAL OF CHILDREN'S DISEASES, 1906, iii, p. 451 (1 case, and found only 13 additional to those collected by Mackenzie).

(4) Edington: 'Glasgow Med. Journ.,' 1913, lxxx, p. 16.

(5) Fischer: 'Zentralb. f. allg. Path. u. path. Anat.,' 1905, xvi, p. 1.

(6) 'Gibson's Anatomy,' fifth edition, 1697.

(7) Giffhorn: 'Virchow's Archiv,' 1908, cxcii, Bd. I, p. 112 (2 cases).

(8) Griffith and Lavenson: 'Arch. of Ped.,' 1909, xxvi, p. 161.

(9) Guillemet: 'Gaz. méd. de Nantes,' 1906, 2me sér., xxiv, p. 576.

(10) Guyot: 'Bull. et Mém. Soc. Anat. de Paris,' 1907, lxxxii, p. 384.

(11) Keith and Spicer: 'Journ. Anat. and Phys.,' 1906, xli, p. 52 (3 cases, with a right aortic arch or its representative present in all).

(12) Kirmisson: 'Bull. et Mém. de la Soc. de Chir. de Paris,' 1904, xxx, p. 745 (the lower end of the tube opening into a bronchus).

(13) Legrande: 'Thèses de Paris,' 1896–7, No. 234.

(14) Patron: 'Gaz. méd. de Nantes,' 1906, xxiv, p. 573.

(15) Phillips: 'Arch. of Ped.,' 1908, xxv, p. 267 (states only 75 cases are recorded).

(16) Pollak: 'Jahrb. f. Kinderheilk.,' 1913, lxxviii, p. 93.
(17) Renaut and Sebilleau: 'Bull. Méd.,' 1904, xviii, p. 479.
(18) Richter: 'Surg., Gynecol., and Obstet.,' 1913, xvii, p. 397.
(19) Shukowsky and Baron: 'Arch. f. Kinderheilk.,' 1912, lviii, p. 191.
(20) Spicer: 'Lancet,' 1907, i, p. 157.
(21) Thomas: 'Birmingham Med. Review,' 1904. new ser., iii, p. 83; and 'Lancet,' 1904, i, p. 361.
(22) Vielliard and Le Mée: 'Rev. Mens. des Mal. de l'Enf.,' 1906, xxiv, p. 554.
(23) Villemin: 'Bull. et Mém. de la Soc. de Chir. de Paris,' 1904, xxx, p. 730.

Keith (1910) states that there are 4 specimens of malformation of the tracheo-œsophageal septum in the Royal College of Surgeons' Museum, and 9 in the museums of other London hospitals.

To this list may be added the case under my care, that of a boy, son of Belgian refugees. He weighed 4 lb. 13 oz. on the first day of life and died at the age of 5 days from starvation and general bronchitis. It was remarkable that he only lost 10 oz. in weight during this period, in spite of the fever and lack of fluid ingesta. The anatomical condition was similar to that so often described, viz. a *cul-de-sac* ending about 1½ in. below the level of the glottis, and the lower patent portion of the œsophagus opening into the posterior surface of the trachea about half an inch above the bifurcation. The posterior wall of the œsophagus blends with that of the trachea.

The anatomical conditions and various views as to the mode of development of this malformation are well described by Shattock, Dickie, Keith, and others. It appears to be due to failure of development of the tracheo-œsophageal septum. Possibly, simple stenosis or atresia is due to failure of canalisation. The *cul-de-sac* has normal walls and ends in a rounded extremity. It extends for 3–5 cm. from the glottis downwards, and ends 1–1·5 cm. above the bifurcation of the trachea. Occasionally it overlaps the lower end. Its diameter is 1–1·5 cm. The fistulous opening is slit-like.

Ballantyne: 'Antenatal Pathology and Hygiene—The Embryo,' 1904, p. 46.
Dickie: British Journal of Children's Diseases, 1906, iii, p. 451.
Edington: 'Glasgow Med. Journ.,' 1913, lxxx, p. 16.
Forssner: 'Anatomische Hefte,' 1907, xxxiv, pp. 1–163.
Keith and Spicer: 'Journ. of Anat. and Phys.,' 1906, lxi, p. 52.

Keith : ‘Brit. Med. Journ.,’ 1910, i, p. 301.

Lewis : ‘Keibel and Mall’s ‘Manual of Embryology,’ 1912, ii, p. 313.

Schneider : Schwalbe’s ‘Morphologie der Missbildungen des Menschen und der Tiere,’ 1912.

Shattock : ‘Trans. Path. Soc.,’ London, 1890, lxi, p. 87.

The *symptoms* are characteristic and the *diagnosis* is easy. On account of the obstruction, fluids by mouth are regurgitated through the mouth and nose. The accumulated mucus and saliva trickle from the mouth and nose, and appear as a bubbly secretion at the exterior nares from being mixed with air from the lungs. Attacks of suffocation and cyanosis occur, probably as the result chiefly of the regurgitation of fluids from the stomach into the trachea, and sometimes from fluid passing from the mouth through the glottis. The passage of a catheter reveals obstruction : in the common type at a distance of 10–12 cm. from the gums. In Type VIII the stomach may be distended with air, passing into it from the trachea, and stand out as a prominent swelling in the upper half of the abdomen, the lower half being retracted and empty. Bronchitis or broncho-pneumonia is often present. Death ensues in a few days, usually four to five; but life has been prolonged by gastrostomy for as long as fourteen days. I do not consider operation justifiable, except for simple stenosis, as in Type V (*a*), in which the stricture is generally seated about an inch above the diaphragm. Possibly the reason for this being the usual site lies in the mode of development. It suggests to my mind that the lower inch or less is developed as a portion of the stomach, and that the stricture indicates the point of union of stomach and œsophagus. The treatment consists in dilatation by graduated bougies.

FURTHER REFERENCES.

AHLFELD.—(A) ‘Lehrbuch der Geburtshilfe,’ 1894; (B) ‘Die Missbildungen des Menschen,’ 1880.

BIRNBAUM.—‘Klinik der Missbildungen u. kongenitalen Erkrankungen,’ 1909, p. 122.

CANNAN AND BERG.—‘Arch. gén. de Med.,’ 1826, p. 79 (quoted by Griffith and Lavenson).

FOLLIN.—‘Bull. della Soc. Med.,’ 1853, xix, p. 267.

HEBB.—‘Trans. Path. Soc. London,’ 1898, xlix, p. 88.

HOFFMANN.—‘Inaug. Dissert. Greifsw.,’ 1899.

HOME.—‘Bibliotheca medica,’ T. viii, p. 260 (quoted by Griffith and Lavenson).

MARTIN.—‘Exposé des Trav. de la Soc. Roy. de Méd. de Marseille,’ 1821, p. 44.

ROTHSCHILD.—‘Traité de l’Hygiène et de Pathologie du Nourisson,’ 1905.

ROSSI.—‘Mem. dell’ Acad. d. Sci. di Torino, 1826, xxx, ser. i, p. 155.

Schwalbe.—'Missbildungen' (2 cases).
Tarnier.—'Gaz. Méd. de Paris,' 1866, xxi, p. 479.
Vigot.—'Assoc. franç. pour l'avancement des Sci.,' 1894, Conférence de Paris, 206 (quoted by Kraus).
Wunsch.—'Med. Klinik,' Berlin, 1907, iii, p. 389.
Zeit.—'Journ. Med. Research,' 1912, xxvii, p. 45.

THE INFECTIVE THEORY OF ACUTE LEUKÆMIA.

By Gordon Ward, M.D.

The theory that leukæmia is due to infection seems to derive most support from the acuter cases. Such cases are not infrequently admitted to fever hospitals, sometimes because of purpura and general symptoms and sometimes owing to a definite membrane on the throat which closely resembles that of diphtheria.

Admitting that no infective agent has yet been described and gained anything approaching general acknowledgment as the cause of leukæmia, it may be worth while to consider how far ascertained facts about this disease point to its infective nature. It is proposed to bring forward some facts which emerge from a somewhat superficial analysis of 1457 cases of leukæmia of all varieties on which the writer has been lately engaged in such spare time as military service provides. This series includes cases described in many countries, but the majority are British.

Congenital Cases.

Granting that a disease is infective, we should expect that congenital cases would only occur when one of the parents was affected, and we should explain their occurrence by actual intra-uterine transference of the causal organism or by infection very soon after birth—so soon, perhaps, that one would not be able to recognise it as certainly a post-natal infection. We should not, however, expect an infective disease to be present in the new-born child unless some parental or very closely associated focus of infection was discoverable. Now in this series are six cases of congenital leukæmia, and other cases are on record, but the exigencies of war service have not permitted reference to them. These are the cases of Zuccola (31), Sänger (18), Siefart (21), Lommel (12), Stuhl (25), and Pollmann (15). The case of Sänger was still-born, and showed a large spleen and "many lymphomatous infiltrations." Pollmann's case lived nineteen days, that of Zuccola twenty-one days (both of these were females, the rest males), and that of Lommel one month. In two cases it is noted that the mother was not leukæmic; in no case is it stated that she was—a fact that could hardly have escaped reference if it had been so.

Pollmann's report is the fullest I have seen—the case is described as acute lymphæmia. The cervical, axillary, inguinal, and mesenteric lymph-glands were enlarged, and also the spleen, liver, and thymus. There was infiltration of heart and kidney. Purpura was present, and throughout its life the child was in a state of depressed vitality. This was in part accounted for by a congenital heart lesion.

In Zuccola's case there was hæmorrhage from the nose and gums as well as purpura. The glands were enlarged as well as the liver and spleen, and the case was apparently one of acute myelæmia.

Congenital syphilis was present in Stuhl's case.

There is here, then, evidence that the congenital variety is not clinically different from the ordinary acute type, but there is no evidence of any source of infection in the mother or elsewhere. We may look at the matter from another point of view, viz. as to whether leukæmic mothers do, as a matter of fact, have leukæmic children.

LEUKÆMIC MOTHERS.

In this series are fifteen cases of leukæmia in pregnancy as well as four in which the disease was first recognised soon after parturition. There is no single case in which the child was said to be leukæmic, except the case of Cameron (3). This latter case or series of cases, for there was a whole family of "leukæmic" children—not to mention other relatives—is of interest also, as being the basis for statements that leukæmia may be hereditary.

All these cases were, however, afflicted with jaundice, and the leukæmia was so far benign that most of them were able to act as other boys and girls of their age. These two facts are so little suggestive of leukæmia and so eloquent of the presence of acholuric jaundice (a disease not described and recognised until long after Cameron wrote), that one cannot deny their very significant evidence. The blood findings are suggestive of leukæmia in some of the cases only, but Cameron wrote in 1888, when blood analysis was not so exact as it is now. The white cell-counts are not absolute but based on the W.R. ratio. One may suggest that if this was reckoned in a fluid medium, the peculiar fragility of red cells which we now know to exist in acholuric jaundice may have led to hæmolysis and so upset the W.R. ratio. However, this explanation is more ingenious than satisfactory, and the clinical features alone are sufficient to demonstrate that Cameron's cases had little or nothing in common with leukæmia as recognised to-day.

There is then no evidence that leukæmic mothers tend to have leukæmic children, nor that leukæmic children have leukæmic mothers. These facts, as far as they go, do not entitle us to argue that leukæmia is never an infective disease, but merely that there are cases of leukæmia in which the infective agent, if there be one, very patently refuses to conform to the practices of other infective agents with which we are familiar. If we can look at other aspects of the disease and still find this refusal to conform to the rules which seem to govern the practices of other infective agents, we shall at least have cleared the air of vague surmises and be in a position to give reasons for whatever decision we may come to.

We will next take a definite habit of infective agents and see if the hypothetical infective agent of leukæmia exhibits it or not. This habit is that of transference from person to person, *i. e.* an infective disease is almost always more or less infectious or contagious, directly or through some living or lifeless medium.

INFECTIOUS LEUKÆMIA.

There are in this series two or three instances in which the question of infection of one member of a household by another came naturally to the front.

The two cases of Obrastzow (14) are classical. A boy, aged 17 years, had typical acute leukæmia lasting only two weeks. The type was myeloid, there were many myelocytes in the blood, and the spleen and lymph glands were enlarged. There were also fever, epistaxis, and diphtheria-like exudation on the palate.

He was nursed by a male nurse who, six weeks after the patient's death, developed fever and a similar inflammation of the palate. Later he had purpura, albuminuria, enormous enlargement of the spleen, and myelocytes in the blood. The submaxillary glands were enlarged.

In the first case the W.R. ratio was 1 : 7, in the second 1 : 9.

This may be merely an example of coincidence, but it is noteworthy that the clinical and pathological type was the same in the two cases.

Bie (1) reports somewhat similar cases. Briefly, the father of a

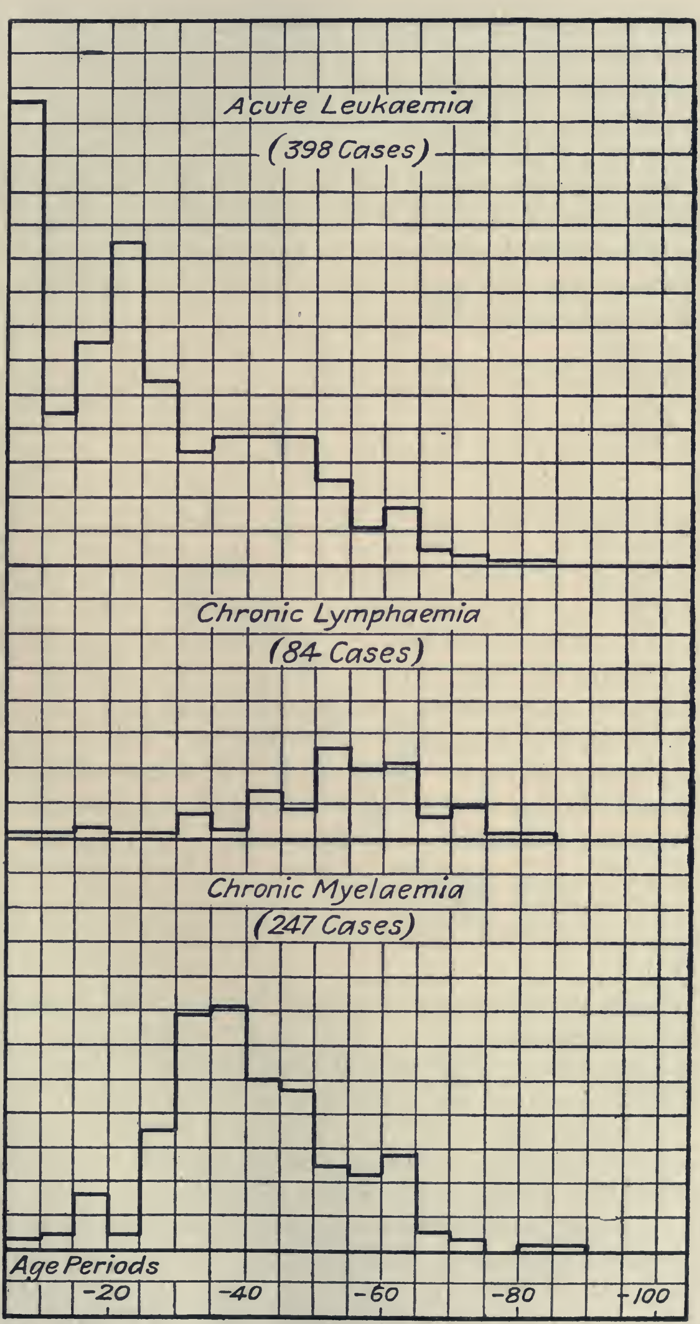


FIG. 1.—The age incidence of the three varieties of leukæmia arranged in five-yearly periods.

household fell sick with chronic myelæmia in 1897 and died in August, 1899. Not long before his death, *i. e.* in June, 1899, a maid in the house fell ill with the same disease.

Again, there is the possibility of mere coincidence, but we also note that the type was the same.

Bearing on the question of infection, Dock (6) has a most interesting observation. A married woman, aged 42 years, suffered from myelæmia for more than three and a half years and eventually died. The diagnosis was fully established. After the mother's death her daughter "had lymphoid hyperplasia in the pharynx and tongue and in the appendix. . . . The latter was removed . . . and found to be free from evidence of inflammation but with lymphoid tissue unusually developed." The husband developed "splenic anæmia" one year after his wife's death.

Here a mother suffered from undoubted myelæmia. After her death her daughter developed a condition which is not uncommonly found in leukæmia but very rarely if at all in any other condition. (In this series of cases lymphoid hyperplasia of the pharynx is reported by a very large number of writers, of the tongue by Warthin (28), Waterhouse (29), von Decastello (5), Treadgold (27), Schültze (19), Reichmann (17), Ponfick (16), etc.; and of the appendix by Gulland and Goodall (7), Lehndorff (10), Moritz (13), Butterfield (2), Stewart (24), Warthin (28), etc.) One might regard the daughter as having a "forme fruste" of leukæmia, while it is perhaps possible that the father's disease was an aleukæmic leukæmia rather than the early stage of Banti's disease. One hesitates, however, to question the undoubted authority of Dock on this subject. (Cases of "aleukæmic leukæmia" are reported by Waterhouse (20), Wende (30), Scott (20), Homer Smith (22), Steinhaus (23), Sweitzer (26), etc.)

The cases of Obrastzow and Dock seem to the writer to be extremely suggestive. It is true they are few, while cases of leukæmia are many. But would a known infective disease such as actinomycosis come out any better from a similar inquiry? Probably not. Yet the occurrence of a true congenital leukæmia comes near to spoiling this parallel, for we cannot well conceive of a congenital actinomycosis in which neither parent was infected.

The only way out of the difficulty is to suppose that there are two or more possible causes of leukæmia, one non-infective and others perhaps infective. This, of course, is not at all impossible. We have a parallel in the case of cholæmia or acholuric jaundice, in which disease the congenital and familial cases very closely resemble in clinical features frankly infective acquired cases, the latter as a rule due to syphilis.

We have not yet referred to any familial cases of leukæmia, but there is in this series a possible example of this. Jewett (4) had under his care a girl, aged 7 months, suffering from acute myelæmia, who died after three months' illness. There was no autopsy. The spleen, cervical and axillary glands were enlarged. There was wasting and diarrhœa, but no bleeding. The blood showed: Red cells, 1,150,000; hæmoglobin, 20 per cent.; nucleated red cells, 5000 per cm.: and white cells, 33,000. Of these last, polymorphs were 1·8 per cent.; "monomorphs," 78·6 per cent.; and myelocytes, 1·4 per cent.

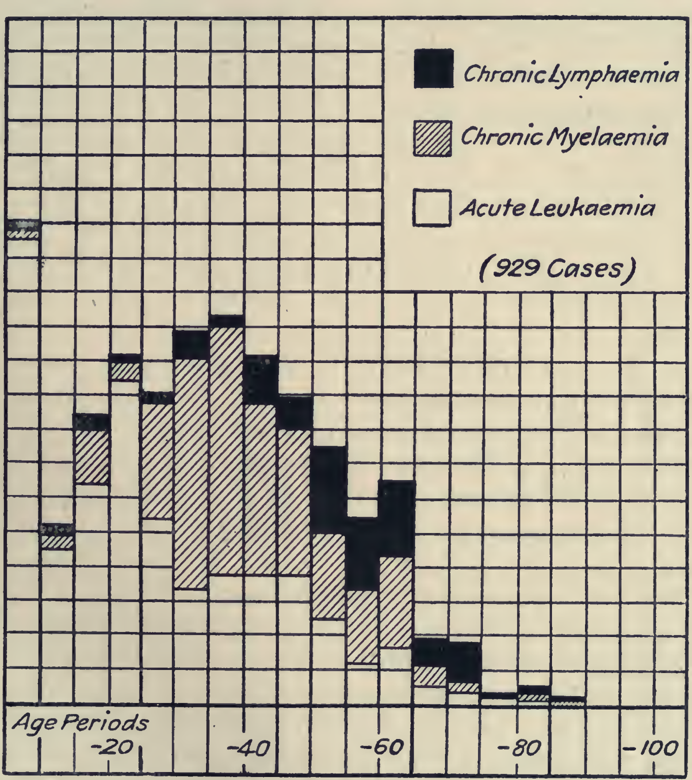


FIG. 2.—Age incidence (in five-year periods) of all varieties of leukæmia subdivided to show the proportion of each variety at each age. Note especially the sharp fall after 60 and the relatively small number of cases in the second age period—years, 6–10.

Jewett then states: "It seems highly probable from the history that a brother and a sister of this child also died of leukæmia. The eldest brother at the age of 5 months developed enlargement of the abdomen and great anæmia. He died six months later. The sister at 4 months developed marked anæmia, splenic tumour, and emaciation. She died at 8 months. Mother and father alive and well."

The writer has thought well to deal with this case because it is reported as leukæmia. It is, however, suspicious on the face of it. Leukæmia at so early an age very rarely, if ever, manifests itself first by a splenic tumour, but rather by swollen glands, purpura, etc. These were probably cases of Gaucher's disease, nor is the blood condition incompatible with this diagnosis, for, in a case of this disease verified at autopsy and reported by Mason Knox, Wahl, and Schmeisser (10), the blood examination on one occasion showed 35,000 white cells, of which 96 per cent. were mononuclears of one sort or another, only 3 per cent. were polymorphs, and 1 per cent. were "unclassified." Both in this patient, who was 9 months old, and in a sister of 5 months the white cell-count was highly abnormal.

There is one further instance in this series which must also be recorded, although the data are very few. Campbell (4) reported in a discussion at the Royal Academy of Medicine of Ireland that he knew of a woman under treatment for leukæmia whose white cells fell from 400,000 to 5000 after five months' treatment, and adds: "Her child was under treatment for leukæmia at the same time." There are no further details.

Hanczel (8) reports acute leukæmia in a boy whose uncle was also suffering from the disease. The diagnosis appears to have been quite satisfactorily established, but there is nothing to indicate that it was more than a coincidence.

We have, then, arrived at this conclusion—that there is no evidence whatever that congenital acute leukæmia is infective—in fact, all the evidence is the other way. On the other hand, there is some evidence in favour of very occasional infection of one person by another in the case of the disease as seen in older children and adults, and in the case of both acute and chronic forms of leukæmia. Let us grant for the moment that congenital leukæmia is in some way essentially different from other forms and concentrate our attention on the latter. This paper is purposely avoiding bacteriology, etc., in favour of less frequented by-ways. We will pass now to a consideration of the age and sex incidence of leukæmia.

It may be asked what this can possibly have to do with the question of the infective nature of acute leukæmia. It seems to the writer quite worthy of consideration and for the following reasons. The acute and chronic infections as well as protozoal infections have never been noted to have an evident bias towards one sex, nor is there a very marked difference in their clinical manifestations tallying with the age at which they occur. On the other hand certain metabolic diseases, *e. g.* exophthalmic goitre, diabetes, etc., and generally the diseases which are classed as neoplasms seem invariably to manifest themselves with unusual virulence in the young, and, in adults, are often particularly partial to one sex. These are admittedly wide generalisations, and, especially in the case of infective diseases, may be upset by social conditions which alter statistics although they do not really have an influence on the essential nature and affinities of the disease. Nevertheless they seem to the writer to be valid within wide limits and, moreover, sufficiently valid to make the approximation of leukæmia to one or the other type good evidence of its nature.

AGE AND SEX INCIDENCE.

There can be no doubt whatever as to the type to which leukæmia belongs—it is sufficient to produce evidence that leukæmia has a very marked preference for the male sex, and that each of its three forms (acute leukæmia, chronic myelæmia, and chronic lymphæmia) has a well-marked "age of election." The accompanying figures show this very well.

Fig. 1 shows the incidence in each five years' period of 398 cases of acute leukæmia, of 84 cases of chronic lymphæmia, and of 247 cases of chronic myelæmia. The latter shows the majority of cases between 25 and 45. Chronic lymphæmia occurs later, and shows the majority of cases between 45 and 60. Acute leukæmia, on the other hand, shows a decided preference for ages below 25, and in this period shows a maximum incidence in the first five years, falling steeply in the next five, but rising to a second maximum between 15 and 20. Is there any class of disease known to be due to an animal or vegetable parasite which varies in any similar manner?

Fig. 2 shows the ages in 929 cases.

Fig. 3 shows the sex incidence of each form. Sixty-five per cent. of all cases are males, *i. e.* two-thirds. But the different forms show slight variations at all ages. Thus acute leukæmia keeps nearest to the average. Its curve is especially valid for the earlier ages, since it is at these that the majority of cases occur. It shows a relative

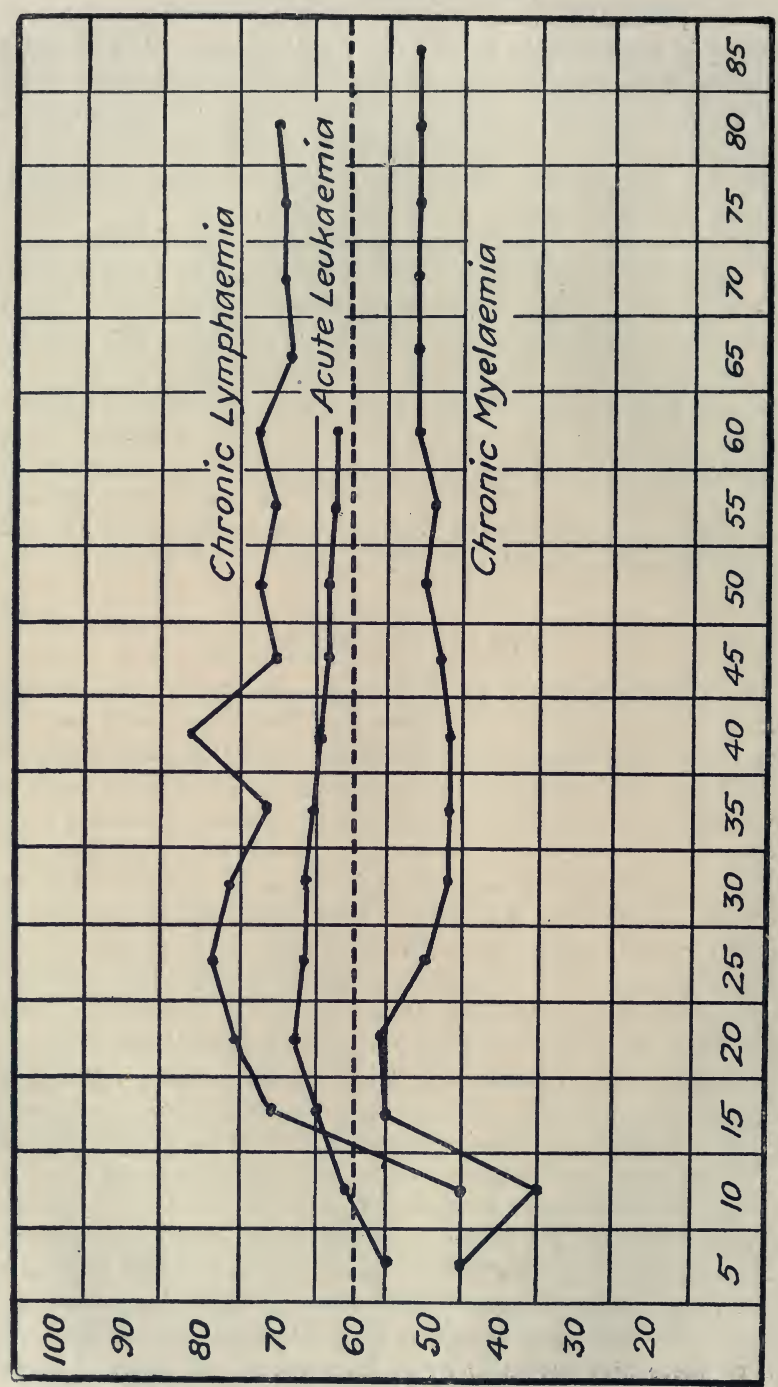


Fig. 3.—Proportions of males at each age period.

preference for females in the first few years which has often been noted clinically, although much smaller numbers were in question.

Chronic lymphæmia shows as much as 80 per cent. of males at all ages up to 20, 25, and 30, and nowhere falls below 73 per cent. Chronic myelæmia shows just as decided a preference for females, and up to some ages reaches 48 per cent. instead of the average 36 per cent. A table is also appended showing the figures on which Fig. 3 is based. It should be borne in mind that the figures at each age are of all cases up to that age and not of those at that age alone. It would require an enormous number of cases to construct a chart in any other way.

Table I, *showing Proportion of Sexes at various Age Periods.*

All ages to age of	Acute leukæmia.		Chronic lymphæmia.		Chronic myelæmia.	
	M.	F.	M.	F.	M.	F.
5	60	40	—	—	—	—
10	65	35	—	—	—	—
15	69	31	75	25	60	40
20	72	28	80	20	61	39
25	71	29	83	17	55	45
30	71	29	81	19	52	48
35	70	30	76	24	52	48
40	69	31	86	14	52	48
45	68	32	75	25	53	47
50	68	32	77	23	55	45
55	67	33	75	25	54	46
60	67	33	77	23	56	44
65	—	—	73	27	56	44
70	—	—	74	26	56	44
75	—	—	74	26	56	44
80	—	—	75	25	56	44
85	—	—	—	—	56	44

We may then recapitulate as follows. The evidence of the facts here dealt with is almost entirely against the infective nature of leukæmia, the established facts being:

(1) That there is a congenital form of leukæmia which occurs in children whose parents are not leukæmic.

(2) That leukæmic parents have never been known to transmit the disease to the new-born child.

(3) That instances in which actual infection of one person by another might seem to have occurred are very few, although not necessarily devoid of significance.

(4) That in having a marked preference for a particular sex and age leukæmia differs from the infective class of diseases, and resembles the metabolic diseases and cancers.

This is as far as this limited essay purposes to go, but it may well be asked whether leukæmia approximates most to the metabolic or to the malignant diseases. In answer to this one may point out that leukæmia differs from all malignant diseases in that the tissues never show any cellular reaction to the growths of leukæmia, nor do these latter ever destroy neighbouring tissues except by pressure. In this very important feature leukæmia resembles benign new growths such as lipomata or goitre, and these again are not very far removed from what are here called metabolic diseases.

References.

(1) Bie.—'Ugeskrift for Laeger,' 1910, lxxii, p. 1607.
(2) Butterfield.—'The Physician and Surgeon,' 1907, xxix, p. 49.
(3) Cameron.—'Amer. Journ. Med. Sci.,' 1888, xcv, p. 28.
(4) Campbell.—'Lancet,' 1912, i, p. 1473.
(5) von Decastello.—'Semaine Méd.,' 1914, xxiv, p. 144.
(6) Dock.—'Amer. Journ. Med. Sci.,' 1904, cxxvii, p. 563.
(7) Gullard and Goodall.—'Journ. Path. and Bact.,' 1905, x, p. 125.
(8) Hanczel.—'Wien. klin. Woch.,' 1908, xxi, p. 594.
(9) Jewett.—'Philadelphia Med. Journ.,' 1901, vii, p. 816.
(10) Knox, Wahl and Schmeisser.—'Bull. Johns Hopkins Hosp.,' 1916, xxvii, p. 1.
(11) Lehndorf.—'Wien. klin. Woch.' 1906, xix, p. 110.
(12) Lommell.—'Münch. Med. Woch.,' 1905, lii, p. 904.
(13) Moritz.—'St. Petersburg. Med. Woch.,' 1906, xxxi, p. 419.
(14) Obrastow.—'Deutsch. Med. Woch.,' 1890, xvi, p. 1150.
(15) Pollmann.—'Münch. Med. Woch.,' 1898, xlv, p. 44.
(16) Ponfick.—'Virchow's Archiv,' 1876, lxvii, p. 367.
(17) Reichmann.—'Münch. Med. Woch.,' 1910, lvii, p. 2002.
(18) Sänger.—'Arch. f. Gynæk.,' 1888–9, xxxiii, p. 204.
(19) Schütze.—'Med. Klinik,' 1905, i, p. 258.
(20) Scott.—'Lancet,' 1907, ii, p. 1527.
(21) Siefart.—'Monatschr. f. Geburtsh. u. Gyn.,' 1898, viii, p. 215.
(22) Smith, H.—'New York State Journ. Med.,' 1910, x, p. 64.
(23) Steinham's.—'Journ. Méd. de Bruxelles,' 1912, xvii, supp. p. 85.
(24) Stewart.—'Amer. Journ. Med. Sci.,' 1901, cxxii, p. 576.
(25) Stuhl.—'Deut. Med. Woch.,' 1906, xxxii, p. 248.
(26) Sweitzer.—'Journ. Amer. Med. Assoc.,' 1916, lxvii, p. 1511.
(27) Treadgold.—'Quart. Journ. Med.,' 1908, i, p. 239.
(28) Waitkin.—'Trans. Ass. Amer. Phys.,' 1904, xix, p. 421.
(29) Waterhouse.—'Lancet,' 1908, ii, p. 869.
(30) Wende.—'Amer. Journ. Med. Sci.,' 1901, cxxii, p. 836.
(31) Zuccola.—'Pediatria,' 1904, xxii, p. 371.

ISOLATED NASAL DIPHTHERIA.

By J. D. Rolleston, M.D.

Historical Note.

Bretonneau, though he maintained that diphtheria always originated in the nostrils, did not recognise an isolated nasal form of the disease. Isambert (18) in 1857 reported two cases under the name of "coryza couenneux" in which the membrane was confined to the nostrils and persisted there for a very long time, but it was Jenner (19) in 1861, who was the first to describe a nasal form of diphtheria, characterised by a sanious discharge from the nose and enlargement of the glands about the angles of the jaw.

The following description shows that this justly celebrated British clinician is entitled to the priority which is so often attributed to foreign observers: "After a few days the disease subsides, and you remain in doubt as to its nature; or it spreads to the larynx, and the diagnosis becomes easy . . . or some other member of the family or an attendant sickens with unmistakable symptoms of diphtheria . . . or again when the exudation reaches the pharynx, the pharyngeal symptoms may be most distressing and lead to inspection of the part and detection of the disease." It was thus evident that Jenner recognised that the disease might remain localised in the nose or spread to the larynx or pharynx.

In 1869 Orr and Gairdner (25) reported two fatal cases of hypertoxic nasal diphtheria in young children in whom the throat was not affected.

In 1870 Fournié (10) recorded five cases of pseudo-membranous pharyngitis in which the membrane did not extend beyond the soft palate.

In 1871 Schuller (36), who by many writers is erroneously accredited with being the first to describe nasal diphtheria, gave a short account of a case of "primary croup of the nasal mucosa" in which death was due to extension of the membrane to the pharynx, and erysipelas.

Of other writers of the pre-bacteriological era Sanné and Henoch may be mentioned. In his monograph on diphtheria (34) Sanné says that it is rare for diphtheria to remain localised in the nasal fossæ, and he elsewhere (35) gives an account of three cases of nasal diphtheria in the same family. The child died without any manifestations in the pharynx or larynx. The mother had a nasal discharge of moderate intensity and recovered. The father's attack was very mild. Henoch (17) stated that he had only once seen an independent rhinitis pseudomembranacea, and was uncertain whether to regard it as a case of true diphtheria confined to the nasal cavities or as a non-specific croupous rhinitis.

Concetti (6) in 1892 was the first writer after the discovery of the diphtheria bacillus to give a full description of primary nasal diphtheria, based on the study of five cases. The nature of the disease was established in two of his cases by the culture of virulent diphtheria bacilli, in two by spread of infection, and in one by the supervention of characteristic diphtheritic paralysis. The course of the disease in all these cases was a chronic one, and with one exception the process was confined to the nose. Its benignity was attributed by Concetti to the fact that the nasal mucosa was little, if at all, capable of absorption. He pointed out, however, that in spite of its mild character the disease might be very dangerous, as it might cause malignant faucial or laryngeal diphtheria in the patient himself or in other individuals.

Concetti's findings were corroborated the same year in Baginsky's clinique by Stamm (38), who reported three cases of pseudo-membranous rhinitis, in all of which virulent diphtheria bacilli were found. He came to the conclusion that the diphtheria bacillus was the cause of the disease hitherto described as pseudo-membranous or fibrinous rhinitis, and that it was no longer justifiable to separate fibrinous rhinitis from nasal diphtheria, with the possible exception of the few cases which occurred after cauterisation as described by Maggiora and Gradenigo. Both diseases he maintained should be united from the ætiological standpoint, while according to the course of the disease an acute and chronic form of nasal diphtheria should be distinguished.

It was about this time that a discussion first began as to the relationship between diphtheria and fibrinous rhinitis, a discussion which even yet has not been finally settled. The earlier writers, *e. g.* Hartmann (16) (1887), Seifert (37) (1887), Bischofswerder (4) (1889), Potter (27) (1889), and Raulin (30) (1890) declared that there was no relation between the two, on the ground that nasal diphtheria was an acute severe disease with a tendency to involve the pharynx and larynx and was accompanied by much constitutional disturbance, a high mortality, and characteristic paralysis, whereas fibrinous rhinitis was a mild disease running a chronic course without any disturbance of the general condition or complications of any kind. They regarded the diphtheria bacilli found by other observers in cases of fibrinous rhinitis as harmless saprophytes without any pathological significance.

With the progress of bacteriology arose an increasing tendency to annul this distinction between fibrinous rhinitis and nasal diphtheria. In 1894 Gerber and Podack (12) published an important paper in which they pointed out that what had been regarded as clinical distinctions between the two conditions did not hold good. In the first place the mild character of fibrinous rhinitis was not invariable, while on the other hand there were numerous cases of diphtheria which ran a mild course with very slight disturbance of the general condition. Secondly, the course of fibrinous rhinitis was not always chronic or subacute, but might be quite acute and end in one or two weeks. On the other hand, cases of faucial diphtheria lasting for several weeks had been reported by many writers, notably by Cadet de Gassicourt. Thirdly, they drew attention to the occurrence of fibrinous rhinitis during a diphtheria epidemic, and to the subsequent development of diphtheria of the fauces or larynx in a patient suffering from fibrinous rhinitis, as well as to the outbreak of undoubted diphtheria in the immediate neighbourhood of such a patient. They concluded that the so-called fibrinous rhinitis was, in many cases, perhaps in most, of a true diphtheritic nature, and that in practice every case of fibrinous rhinitis, as long as its non-diphtheritic nature had not been proved, should be regarded as true diphtheria.

Ravenel (29) in 1895 reported twelve cases of membranous rhinitis, some of which had been followed by other examples of fibrinous rhinitis or of faucial diphtheria in the same family. He was of opinion that the majority of cases of membranous rhinitis were really forms of nasal diphtheria and should be regarded as such until the contrary had been proved by cultural methods.

Pluder (26) in 1896 reported six cases in which fibrinous rhinitis was associated with faucial diphtheria in the same patient or in persons in his immediate neighbourhood. He held that there were no features peculiar to fibrinous rhinitis to distinguish it from diphtheria.

With the exception of certain English rhinologists, subsequent writers, *e. g.* Glatard (14) (1902), Vieillard (43) (1902), Massei (24) (1904), Wolff (44) (1905), Faseuille (8) (1906), Stimson (40) (1907), Friesner (11) (1907), Ker (20) (1909), Graham (15) (1910), Biehler and Korybut-Daskiewicz (3) (1911), Cartaz (5) (1912), Bergh (2) (1915), and Marinho (23) (1916) seem to ignore the distinction between fibrinous rhinitis and diphtheria and either discard the use of the term fibrinous rhinitis altogether or reserve it for those comparatively rare cases due to other ætiological factors than the diphtheria bacillus, *e. g.* staphylococcus (Maggiora and Gradenigo (22), Price-Brown (28)), streptococcus and pneumococcus (Abel (1)). All these writers are agreed as to the epidemiological importance of isolated nasal diphtheria and the necessity of treating it by antitoxin.

The question seems to have attracted little attention in this country until 1898, when Lambert Lack read a paper before the Royal Medical and Chirurgical Society of London, entitled "Fibrinous or Membranous Rhinitis and its Relation to Diphtheria," based on clinical and bacteriological examination of thirty-six cases. While establishing the diphtheritic nature of fibrinous rhinitis he accentuated the distinction from diphtheria, especially as regards the very slight amount or complete absence of general symptoms, entire absence of sequelæ, absolutely good prognosis, and relative chronicity. He was unable to find any example among his cases where the disease had given rise to a single case of unmistakable diphtheria, and regarded recorded instances as doubtful. Other English rhinologists, especially StClair Thomson (41), Tilley (42), and Yonge (45) have adopted Lack's views. StClair Thomson, indeed, is so convinced of the clinical distinction of fibrinous rhinitis from diphtheria as to declare that the injection of diphtheria antitoxin does no good. On the other hand, Duncan Forbes and Newsholme (9) (1912), while still retaining the term membranous rhinitis, point out from their experience of school outbreaks that it possesses great infectivity, and are of opinion that its frequency is not sufficiently recognised.

The present paper is based on the occurrence of isolated nasal diphtheria among 3000 cases of diphtheria which were under my care at the Grove Hospital between 1902 and 1915. Of these only 55 cases or 1·5 per cent. were examples of isolated nasal diphtheria, *i. e.* diphtheria starting in the nose and remaining confined to that site, as compared with 620 cases or 20·6 per cent. in which nasal diphtheria was associated with diphtheritic angina. The diagnosis in each case was confirmed by bacteriological examination.

With the exception of four infants who were suffering from congenital syphilis, all the patients had been in good health until the time of their attack of diphtheria. None had been recently suffering from scarlet fever or measles which so frequently precede nasal diphtheria.

Age and sex.—With the exception of two patients, aged 26 and 51 years respectively, the disease was confined to children aged from five weeks to sixteen years. As I have shown elsewhere, isolated nasal diphtheria is relatively frequent in the first year of life. The sexes were almost equally divided. The exact figures are given in the annexed table.

TABLE I.

Years.	Males.	Females.
0– 1	3	3
1– 2	1	2
2– 3	4	3
3– 4	2	5
4– 5	3	1
5– 6	0	2
6– 7	3	3
7– 8	8	1
8– 9	1	0
9–10	1	2
10–11	0	1
11–12	1	1
12–13	0	1
16–17	0	1
26–27	0	1
51–52	0	1
	27	28

Season.—Table II shows the preponderance of cases in the cold months of the year.

January–March	14 cases
April–June	7 ,,
July–September	2 ,,
October–December	32 ,,
	55

Symptomatology.—The commonest prodromal symptoms were headache (16 cases), sore throat (14 cases), shivering (8 cases), and vomiting (8 cases). Twenty had no symptoms beyond a discharge from the nose, but this absence of complaint may have been partly due to the fact that a large proportion of the patients were very young children.

The local symptoms varied. The character of the nasal discharge was watery (16 cases), sanious (11 cases), or purulent (9 cases). In five there were only dry crusts present. Membrane could be seen in the nostrils without the aid of a speculum in 15 cases.

Redness and excoriation of the ala nasi, septum and naso-labial groove on the side corresponding to the discharge was frequently observed. Enlargement of the submaxillary or cervical glands was frequently but not invariably present. As regards the general condition, in 11 cases the temperature was normal or subnormal on admission, and remained so throughout their stay in hospital. In 44 there was some pyrexia on admission, ranging from 98·6° F. to 104·4° F., and lasting from one to four days or more. None, however, appeared to be severely ill with the exception of the four subjects of congenital syphilis. This absence of general disturbance and slightness of the local signs explain why barely half the cases were admitted to hospital until they had been ill over a week. The exact duration of their illness on admission is shown in Table III.

Date of disease on admission.

1st week	28 cases
2nd „	17 „
3rd „	4 „
4th „	1 „
5th „	2 „
6th „	1 „
3 months	1 „
?	1 „
	55

Infectivity.—In 16 cases one or more other members of the family had simultaneous attacks of faucial or nasal diphtheria. Excluding from consideration 14 cases which were lost sight of, as they were transferred to a convalescent hospital shortly after they were allowed to leave their bed, the long duration of infectivity is shown by the fact that 26 of the remaining 41 patients were detained more than six weeks, for periods ranging from 45 to 132 days, owing to the persistence of diphtheria bacilli in the nostrils.

Complications.—Albuminuria lasting from 1 to 18 days was the commonest complication, having been noted in 13 cases; otitis occurred in 2, paralysis (cycloplegia) in 1. Two had a relapse, one a mild nasal attack, and the other very severe faucial diphtheria which proved fatal in a few days.

Prognosis.—The present series confirms the rule as to the general benignity of isolated nasal diphtheria. All recovered except three infants, aged 5 weeks, 10 weeks, and 3 months respectively, all subjects of congenital syphilis. In two death was due to bronchopneumonia, and in the third to an attack of very severe faucial diphtheria which supervened nearly four months after admission.

Treatment.—With the exception of 3 cases which received no antitoxin, all were given doses ranging from 1000 to 12,000 units. Nineteen of these subsequently developed urticarial rashes, but no other sequelæ attributable to the serum were observed. Owing to the risk of infecting the middle ear nasal irrigation was avoided, and no local treatment was employed in any case beyond keeping the nose clean. Care was taken to prevent the child infecting itself elsewhere by picking its nose and scratching other parts of the body.

The local application of a bouillon culture of *Staphylococcus pyogenes aureus,* which I had found useful in removing the bacilli in faucial cases (32), proved ineffective in nasal diphtheria.

REMARKS.

The frequency of isolated nasal diphtheria has been variously estimated by different observers, some regarding it as a rare occurrence, and others as extremely frequent. The difference in these views is partly to be explained by the significance attached by various writers to the term "primary," the more frequent synonym for "isolated" nasal diphtheria, and partly to the fact that their field of observations varied considerably. Cases of isolated nasal diphtheria are comparatively seldom sent to a fever hospital, and this accounts for the fact that the present series forms only so small a fraction of a large number of cases of diphtheria admitted to hospital during a period of thirteen years. Only slightly higher figures are given by Bergh (2) who states that among 256 diphtheria patients treated at the fever hospital at Malmö 9 cases, or 3·5 per cent., had primary nasal diphtheria. It is much more frequent, however, to find cases of nasal diphtheria in a fever hospital among children convalescent from scarlet fever or measles, but it is in schools and among other collections of children that the disease is most frequent. The rarity of the condition in adults and its frequency in children, to which most writers have drawn attention, is well shown in my cases.

The relative frequency with which diphtheria tends to remain localised in the nostrils in infancy, which has been illustrated in a previous paper (33) has been attributed to the fact that in infants the bucco-pharyngeal cavity is an acid medium ill-suited for the development of diphtheria bacilli.

The association with congenital syphilis, which is well exemplified in the present series, has been noted by other observers, especially Grenet and Lesné, Riether, Ballin, and Hutinel.

The generally mild character of isolated nasal diphtheria has been proved by the interesting experiments of De Stella (39) to be the result of auto-immunisation. In his first experiment he smeared the nasal mucosa of five guinea-pigs and one rabbit with virulent cultures of diphtheria bacilli. Within 12 hours the cultures had all disappeared from their noses. As a control experiment he smeared the same cultures on the pharyngeal, conjunctival, and vaginal mucosæ of three guinea-pigs and one rabbit, with the result that diphtheria developed in all.

His second experiment was the same as the first, except that the cultures were inoculated after scarification of the nasal mucosa. In 15 hours the bacilli had disappeared from the nose and no membrane had developed, whereas in control animals inoculated on the pharyngeal, conjunctival, or vaginal mucosæ a rapidly fatal diphtheria occurred.

The third experiment consisted in inoculation after cauterisation of the mucosa of the nasal septum. In 12 hours there was formation of a membrane which in 48 hours extended over a large surface of the nasal fossæ, and was associated with sneezing and discharge of pus and blood from the nose. Only two of the 50 guinea-pigs thus inoculated died, while none of the rest showed any signs of illness. The fourth experiment consisted in inoculating the animals which had recovered from nasal diphtheria with an extremely virulent bouillon culture of diphtheria bacilli. It was found that they were able to resist doses ten times stronger than that which could be borne by the control animals.

Further, a serum was prepared from the blood of these animals which, when infected into guinea-pigs, rendered them refractory to large doses of diphtheria toxin.

De Stella concluded that in diphtheritic rhinitis the organisms secrete an antitoxin which completely neutralises the diphtheria toxin.

In rare instances, though the membrane is confined to the nose, there is considerable toxæmia. Only one example was met with in the present series, in a congenital syphilitic child. Other cases of toxæmic diphtheria confined to the nose have come under my notice though they are not included in the present series.

The absence or scarcity of complications in isolated nasal diphtheria is in accordance with the slight degree of associated toxæmia. The occasional but rare development of diphtheritic paralysis, one instance of which occurred in the present series, has been noted by Concetti (6), Escat (7), van Gilse (13), and Bergh (2).

The long persistence of the diphtheria bacilli and the inefficacy of attempts to get rid of them are readily explained by anatomical considerations. The numerous folds in the mucous membranes of the nasal fossæ, antrum of Highmore, ethmoid and frontal sinuses form an excellent incubator for the growth and multiplication of the specific bacilli.

As regards diagnosis, diphtheria of the nose should be suspected in the presence of a persistent rhinorrhœa, whether sanious or purulent, especially if unilateral and accompanied by redness and excoriation of the corresponding side of the naso-labial fold and ala nasi.

The diseases most likely to be mistaken for it are a foreign body in the nostril and the rhinitis of congenital syphilis.

As regards the latter, it must be borne in mind that the two diseases not infrequently co-exist; a negative bacteriological examination, especially when no improvement follows the injection of antitoxin, will settle all doubts.

I reported some years ago (31) an example of intranasal chancre simulating nasal diphtheria in which the diagnosis was made by the co-existence of a polymorphic eruption, the considerable adenopathy, the absence of diphtheria bacilli and the result of antisyphilitic treatment.

SUMMARY.

(1) Isolated nasal diphtheria, *i. e.* diphtheria originating in and confined to the nose, occurred in 95 out of 3000 cases of diphtheria (1·5 per cent.) admitted to hospital.

(2) It is most frequent in young children and in the cold months of the year. Congenital syphilis is a predisposing cause.

(3) The great majority of cases run a mild course, but rare examples of toxæmic diphtheria confined to the nose undoubtedly do occur.

(4) The habitually mild course of isolated nasal diphtheria has been proved to be due to auto-immunisation.

(5) Chronicity is a characteristic feature of isolated nasal diphtheria, the persistence of the bacilli being explained on anatomical grounds.

(6) Sequelæ occasionally occur, but are rare.

(7) Treatment by antitoxin is indicated. Local treatment should be avoided.

(8) The term "fibrinous rhinitis" should be reserved for those comparatively rare cases in which this form of rhinitis is due to other causes than the diphtheria bacillus.

(9) The practical significance of isolated nasal diphtheria consists in its epidemiological importance.

References.

(1) Abel.—'Centralbl. f. Bakt.,' 1892, xii, p. 841.
(2) Bergh.—'Monatsschr. f. Ohrenheilk. u. Laryngo-Rhinol.,' 1915, xlix, p. 584.
(3) Biehler and Korybut-Daskiewicz.—'Arch. de méd. des enf.,' 1911, xiv, p. 833.
(4) Bischofswerder.—'Arch. f. Kinderheilk.,' 1889, x, p. 127.
(5) Cartaz.—'Nouveau Traité de Méd. et de Thér., par Brouardel et Gilbert,' 1912. xxviii, p. 79.
(6) Concetti.—'Arch. ital. di laryng.,' 1892, xii, p. 57.
(7) Escat.—'Centralbl. f. Laryng.,' 1911, xxvii, p. 19.
(8) Faseuille.—'Thèses de Paris,' 1905–6, No, 201.
(9) Forbes and Newsholme.—'Lancet,' 1912, i, p. 292.
(10) Fournié.—'Gaz. d. hôp.,' 1870, xliii, p. 315.
(11) Friesner.—'New York Med. Jour.,' 1907, lxxxv, p. 889.
(12) Gerber and Podack.—'Deutsch. Arch. f. klin. Med.,' 1895, liv, p. 262.
(13) Gilse, van.—'Centralbl. f. Laryng.,' 1911, xxviii, p. 611.
(14) Glatard.—'Thèses de Paris,' 1901–2, No. 431.
(15) Graham.—'Arch. of Ped.,' 1910, xxvii, p. 887.
(16) Hartmann.—'Deutsch. med. Woch., 1887. xiii, p. 641.
(17) Henoch.—'Vorlesungen über Kinderkrankheiten,' 1881, p. 286.
(18) Isambert.—'Arch. gén. de Méd., 1857, i. p. 447.
(19) Jenner.—"Diphtheria, its Symptoms and Treatment," 1861.
(20) Ker.—"Infectious Diseases," 1909.
(21) Lack.—'Med.-Chir. Trans.,' 1899, lxxxii, p. 1.
(22) Maggiora and Gradenigo.—'Centralbl. f. Bakt..' 1890, viii, p. 641.
(23) Marinho.—'Brazil-medico,' 1916, xxx, p. 190.
(24) Massei.—'Arch. Ital. di laryng.,' 1904, xxiv, p. 45.
(25) Orr and Gairdner.—'Glasgow Med. Journ., 1869, i, p. 395.
(26) Pluder.—'Deutsch. Med. Woch.,' 1896, xxii, p. 708.
(27) Potter.—'Jour. of Laryng.,' 1889, iii, p. 89.
(28) Price Brown.—*Ibid.*, 1899, xiv, p. 225.
(29) Ravenel.—'Med. News,' 1895, lxvi, p. 537.
(30) Raulin.—'Rev. de laryng.,' 1890, x, p. 289.
(31) Rolleston, J. D.—'Lancet,' 1906, i, p. 1682.
(32) *Id.*—'Brit. Journ. Child. Dis.,' 1913, x, p. 298.
(33) *Id.*—'Am. Journ. Dis. Child.,' 1916, xii, p. 47.
(34) Sanné.—"Diphthérie," 1877, p. 240.
(35) *Id.*—'Dictionnaire de Dechambre,' 1884, art. Diphthérie.
(36) Schuller.—'Jahrb. f. Kinderheilk.,' 1871, iv, p. 331.
(37) Seifeit.—'Münch. med. Woch.,' 1887, xxxiv, p. 733.
(38) Stamm.—'Arch. f. Kunderheilk.,' 1892, xiv, p. 157.

(39) Stella.—'Arch. internat. de laryng.,' 1903, xvi, p. 970.
(40) Stimson.—'New York Med. Journ.,' 1907, lxxxvi, p. 1123.
(41) Thomson, StClair.—"Diseases of Nose and Throat," second edition, 1916, p. 150.
(42) Tilley.—"Diseases of Nose and Throat," 1908, p. 43.
(43) Vieillard.—'Thèses de Lyon,' 1902-3, No. 145.
(44) Wolff.—'Deutsch. med. Woch.,' 1905, xxxi, p. 65.
(45) Yonge —"Handbook of Diseases of Nose and Throat," 1909, p. 45.

CEREBRAL DIPLEGIA WITH ABNORMAL FLEXIBILITY ("ATONY" OR "HYPOTONIA") OF ANKLE JOINTS.*

By F. Parkes Weber, M.A., M.D., F.R.C.P.Lond.

The patient, a boy, C. H—, aged 5½ years, was admitted to hospital on August the 18th, 1916, and was kept under observation till October the 16th. During that time the child's condition changed very little, but he gained slightly in body weight. Though he is doubtless mentally backward, he is certainly not an idiot, and can understand what one tells him to do, but he can speak very little, and that only in a slow, jerky way. His body is fairly well nourished, but his legs are thin and apparently weak, and there is abnormal laxity of the ankle-joints, permitting *extreme* dorsal flexion (*hyperflexion*, or better, *superflexion*, as illustrated in Fig. 3 of the paper by F. E. Batten and W. H. von Wyss, referred to under "Bibliography" at the end). He is very awkward with his upper extremities, and his hands often assume an athetosis-like position. He can, with some difficulty, grasp a piece of cake or anything he wishes to eat, but he can do very little else with his hands except, in an extremely awkward (partly ataxic ?) way, catch hold of things. In spite of the poor-looking development of his feet and legs and the great super-flexibility of his ankle-joints, there is usually no real muscular atony. The muscles of the legs contract well, and he can move his legs freely when lying on his back in bed. He can sit up and hold his head up. When held up by the arms he will endeavour to walk. The knee-jerks are always present, and are sometimes greatly exaggerated. The plantar reflexes are sometimes (but not always) definitely of the extensor type (Babinski's sign). A most striking feature is the "overflow" of the superficial abdominal reflexes; the response is not limited to contraction in the muscles of the abdominal wall, but it involves considerable movements of the thighs and trunk.

---

* Paper read at the Royal Society of Medicine, Section for the Study of Disease in Children, October the 27th, 1916. Slight alterations have been introduced.

There can be no doubt that the condition dates from birth. The birth was a difficult one (breech presentation), and I suppose that some widespread symmetrical damage to the cerebrum (and ? cerebellum) resulted. Possibly there was diffuse bilateral meningeal hæmorrhage injuring the cerebral cortex. The mother has two other children, who are normal, excepting that one of them has nocturnal enuresis.

In the hospital there was frequently slight evening pyrexia (to 100° F.), and the child has perhaps some tuberculosis of lymphatic glands in the thorax. Dr. James Metcalfe, after examination of a Röntgen skiagram of the thorax, reported that there were many small enlarged hilus glands. There are no signs of rickets whatever. The fundi of the eyes (Dr. R. Gruber) are normal.

I hesitate to classify the case as one of the "Atonic (Hypotonic) Type of Cerebral Diplegia," because there is, I think, no real condition of muscular atony or hypotonia present, at all events, not always present; but certainly in some respects it resembles cases that have been described under that heading, notably in regard to the feeble-looking legs, the super-flexibility of the ankle-joints, and the "overflow" of the superficial abdominal reflexes. With regard to differential diagnosis, the hypotonia of the joints connected with Oppenheim's "Amyotonia (Myatonia) Congenita" has of course to be distinguished. In Finkelstein's case of congenital and familial flail Joints ("Joint Hypotonia") there was no sign of either cerebral diplegia or amyotonia congenita.

BIBLIOGRAPHY.

BATTEN, F. E., AND VON WYSS, W. H.—"The Atonic Form of Cerebral Diplegia," 'Brit. Journ. Child. Dis.,' Lond., 1915, xii, p. 65.

CLARK, L. PIERCE.—"Infantile Cerebro-Cerebellar Diplegia of Flaccid Atonic-Astasic Type," 'Amer. Journ. Dis. Child.,' 1913, v, p. 425.

FEARNSIDES, E. G.—"A Case of the Atonic Form of Cerebral Diplegia," 'Brit. Journ. Child. Dis., Lond.,' 1915, xii, p. 166.

FINKELSTEIN, H.—"Joint Hypotonia with Congenital and Familial Manifestations," 'New York Med. Journ.,' 1916, civ, p. 942.

FOERSTER, O.—"Der atonisch-astastische Typus der infantilen Cerebrallähmung," 'Deutsch. Arch. f. klin. Med.,' Leipz., 1910, xcviii, p. 216.

A CASE OF CYCLIC VOMITING WITH ACETONÆMIA (ACIDOSIS). REMARKS ON NON-DIABETIC ACETONURIA AND DIACETURIA.*

By F. Parkes Weber, M.A., M.D., F.R.C.P.Lond.

The patient, P. H—, is a girl, aged 7 years, physically well-developed and of fairly good "general nutrition," but considered to be somewhat mentally backward and dull. She was born in Manchester, of Hebrew parents from Hungary. She is said to have vomited at birth, and from birth onwards to have had recurring attacks of vomiting, with intervals averaging five weeks between the attacks, each attack generally lasting about three or four days. She has three sisters and four brothers, but in none of them has any similar affection been observed.

An attack, apparently at first of the ordinary kind, commenced on June the 11th, but did not pass off as soon as usual. From June the 12th vomiting recurred at short intervals (more or less incessantly, I was told) till the patient was admitted to hospital, on July the 3rd; she was said to be losing weight and had complained of a feeling of giddiness.

On admission the child was abnormally inclined to sleep. The temperature was 98° F.; the pulse was 92, and the respiration 24 per minute. Nothing abnormal was found by examination of the thorax, abdomen, throat, and ears. The urine (July the 3rd) was of specific gravity 1030; acid in reaction; free from albumin; very slightly reducing Fehling's solution (though this was probably not due to the presence of sugar); giving a positive Gerhardt's (perchloride of iron) reaction for diacetic acid and a positive Legal's (nitroprusside) reaction for acetone. The knee-jerks were rather exaggerated; there was no ankle clonus; the plantar reflexes were of the (normal) flexor type; the abdominal reflexes were present; the pupils reacted well to light. Nothing abnormal was discovered by ophthalmoscopic examination (Dr. R. Gruber). There was no cervical rigidity and there was no evidence of meningism.

Under treatment by sodium bicarbonate the urine soon became alkaline and turbid with phosphates, but the reaction for diacetic acid was not found to be negative till July the 7th, nor that for acetone till July the 8th. The reaction with Fehling's solution had never again been found to be at all positive. There was no vomiting after July the 4th : on July the 6th the child was sitting up in bed, looking quite happy and well again, and on July the 13th she was taken to her own home.

---

* A paper read at the Royal Society of Medicine, Section for the Study of Disease in Children, December the 15th, 1916.

She was, however, readmitted to hospital on August the 6th, in a somewhat drowsy state, as on the last occasion ; temperature, 97° F. ; pulse, 96 ; respiration, 24 per minute. The attack was stated to have commenced on August the 4th with lassitude and sleepiness, vomiting having first occurred at 5 a.m. on August the 6th (about five hours before admission). At 11 a.m. (that is to say, about six hours after the commencement of the vomiting) the urine was found to give a negative Gerhardt's reaction for diacetic acid ; Legal's reaction for acetone was likewise negative, but Rothera's reaction for acetone was faintly positive. In the afternoon, treatment by sodium bicarbonate was commenced. In the evening the urine (weakly acid, of specific gravity 1026, and free from albumin and sugar) gave positive Gerhardt's and Legal's reactions.

On August the 7th the urine was slightly alkaline and turbid with phosphates, but gave positive reactions for acetone (Legal's) and diacetic acid (Gerhardt's). There was no vomiting after August the 6th, and on the afternoon of August the 7th the child seemed happy and quite well again. But in spite of the urine being neutral or slightly alkaline (and turbid with phosphates) Gerhardt's and Legal's reactions were both positive on August the 8th. On the morning of the following day, however, Gerhardt's reaction was negative, Legal's reaction being still positive. In the evening (August the 9th) both reactions were negative, and so they remained on August the 10th and afterwards. On August the 12th the child was discharged to her own home. It may be mentioned that a few small purpuric spots (petechiæ) were observed, scattered over the trunk and limbs, on readmission (August the 6th), but these had practically disappeared by August the 9th, and no fresh ones had appeared. I was not quite satisfied that they were not due to insects. On August the 12th, just before the child left the hospital, a blood-count gave : Red cells, 5,000,000, and white cells, 7925 (55 per cent. of which were polymorphonuclear neutrophiles), to the cubic millimetre of blood ; hæmoglobin, 90 per cent.

The attack in August was obviously much less severe than that in June. On November the 22nd I heard that the patient since leaving the hospital had had two of her ordinary attacks, each lasting about three days, one in September and the other in October. The specimens of urine passed on November the 22nd and November the 25th (out-patient department) were of specific gravity 1016 to 1017, acid, free from albumin and sugar, and giving negative reactions for acetone and diacetic acid.

For help in the examination of this case I am much indebted to Dr. H. Schmidt, the Resident Medical Officer.

REMARKS.

It should be noted that in this child in both attacks the vomiting was preceded by a day or two of prodromal symptoms (lassitude and somnolence). The ordinary reactions for acetone and diacetic acid became positive in the urine after the commencement of the vomiting and persisted, in spite of the urine being rendered neutral or slightly alkaline by the administration of sodium bicarbonate, till a day or two after the child seemed well again; the reaction for acetone made its appearance slightly before diacetic acid could be detected, and it remained weakly positive for a day or so after the reaction for diacetic acid had been found negative.

Quite apart from the acidosis which has been said to sometimes result from the prolonged therapeutic use of large doses of sodium salicylate,* acetonuria and diaceturia are not very rarely present in diseases (*e.g.*, acute follicular tonsillitis, with suspicion of rheumatic fever) for which salicylates may be given. In this connection, therefore, I should like to draw attention to the frequent statement that the colour-reaction produced by adding perchloride of iron solution to a urine containing salicylate can be at once distinguished from that due to the presence only of diacetic acid (Gerhardt's reaction), that the colour produced in the former case is a bluish-purple, reminding one of the colour of certain grapes and plums and of some kinds of claret, whilst the true colour in the latter case (Gerhardt's reaction for diacetic acid) is the golden-red, or brownish-red, of slightly tawny port-wine, and (amongst gemstones) of some garnets. These statements are, however, only partly true, for, though, I believe, the bluish-purple colour-reaction, characteristic of salicyluric specimens of urine, is never caused by the presence merely of diacetic acid, nevertheless, the typical tawny port-wine colour-reaction, sometimes stated to be a certain sign of the presence of diacetic acid, can *always* be obtained with the urine of persons under salicylate treatment. In fact, with a salicyluric specimen of urine it depends on the relative quantities of the reagent (perchloride of iron) and of the salicylic contents of the urine whether the tawny port-wine colour

* Cf. F. Langmead's remarks ('Lancet,' 1913, ii, p. 1755) on the danger of acid intoxication during treatment by large doses of sodium salicylate.

or the more usual bluish-purple colour is produced.* A positive Legal's or Rothera's reaction for acetone is of course very valuable when Gerhardt's (perchloride of iron) reaction for diacetic acid is interfered with by some salicylic compound having been employed in the treatment of the case.

Cyclic or periodic vomiting in children, of which the present case (P.H.) is an example, was described by Samuel Gee in the first important paper on the subject, in 1882, under the heading, "Fitful or Recurrent Vomiting."† Many years later various interesting studies of the condition were published in America and France by J. P. Crozer Griffith,‡ Edsall,§ Marfan,‖ and others. Excellent papers on the subject were published in England in 1905 by H. Batty Shaw and R. H. Tribe,¶ and by F. Langmead.** For a concise summary of the subject Langmead's article †† on "Cyclical Vomiting," in 1912, may be consulted. These articles give references to other literature connected with the subject.

The affection occurs chiefly after the first year of life, between the ages of 2 and 11 or 12 (especially between 5 and 8 years of age), and more often in girls than in boys. I hesitate somewhat to accept the history given in the present case (P. H—) of its having commenced immediately after birth, though that is of course possible; Rachford alluded to a case which began at 2 months of age. Cyclic vomiting with acetonuria may occur in more than one child of the same parents. Burrage saw a brother and sister who were both affected.‡‡ Very interesting is the occurrence of migraine, or so-called "recurrent biliousness," or recurrent "sick headache," in members of the same family; but in the present cass (P. H—) there is no family history of migraine, though I at first understood that there was. In the patient herself it would not be surprising if the mental symptoms (drowsiness, &c.) became transformed after puberty (as they have been apparently in some other cases) into recurrent attacks of migraine.

In regard to the nervous manifestations and the family history, obtained in some cases, of neurotic diseases, the condition of cyclic vomiting might be compared not only to recurrent migraine in adults, but to minor forms of cyclic or periodic insanity with mental depression. From the metabolic point of view one is reminded of recurrent so-called "bilious" or "digestive" disorders and likewise to the diseases which A. E. Garrod* has termed "inborn errors of metabolism"—conditions which may have a markedly familial distribution. In certain cases of cyclic vomiting in children enlargement of the liver (sometimes jaundice) has been noted in connection with the attacks.

---

* Cf. F. Parkes Weber, 'Lancet,' 1916, i, p. 1234.

† S. Gee. 'St. Bart.'s Hosp. Rep.,' London, 1882, xviii, p. 1.

‡ Griffith, 'Amer. Journ. Med. Sci.,' Philadelphia, 1900, cxx, p. 553.

§ Edsall, *ibid.*, 1903, cxxv, p. 629.

‖ Marfan, 'Arch. de Méd. des Enfants,' Paris. 1901, iv, p. 641. For a recent paper by Marfan on this subject see 'Presse Médicale,' Paris, 1916, xxiv, p. 397.

¶ Shaw and Tribe, 'Brit. Med. Journ.,' 1905, i, p. 347.

** Langmead, *ibid.*, 1905, i, p. 350.

†† Langmead, 'Practitioner,' London, 1912, lxxxix, p. 24.

‡‡ T. J. Burrage, 'Journ. Amer. Med. Assoc.,' 1909, liii, p. 2099.

In the present patient (P. H—) pyrexia has not been associated with the attacks whilst she was under observation, but most of her attacks do not last long, and she has probably seldom come under medical observation; it was only the exceptional length of the attack in June, 1916, which brought her to the hospital. Pyrexia has been associated with the attacks of cyclic vomiting in various published cases, but the temperature rarely exceeds 100° F.

E. I. Spriggs† writes: "In determining whether the condition of acidosis (in recurrent vomiting of children) is a primary or secondary one it is important to know whether acetone bodies have been absent from the urine before the symptoms definitely commenced; their presence in the prodromal stage in individual cases might be due to abstinence from food, and will not have the same significance as their absence. J. P. Crozer Griffith recorded absence of acetonuria in the prodromal stage, and Langmead also came to the conclusion that the acetone bodies are secondary in their appearance to the vomiting." In the present case (P. H—), as I have already stated, the reactions for acetone and diacetic acid became positive in the urine after the commencement of the vomiting and persisted, in spite of the urine being rendered neutral or slightly alkaline by the administration of sodium bicarbonate, till a day or two after the child seemed well again.

The cyclic vomiting and the excess of acetone bodies (in the blood and urine) might be, not dependent the one on the other, but due to some (unknown) toxic or metabolic cause common to both of them. One can imagine the gradual accumulation in the body of some abnormal and toxic metabolic product (the result of an "inborn error of metabolism") giving rise to recurrent or periodic (cyclic) "explosive" attempts, of a *conservative nature* (from the modern Darwinic teleological point of view), on the part of the organism to rid itself of the accumulation—a kind of vital "Geyserlike " reaction of the body, serving the purpose of a safety-valve escape. Such an intermittent mode of vital reaction (by "periodic explosions ") might be regarded as an abnormal inborn peculiarity of certain children, which, at or before the period of puberty, usually gives place to a continuous (adult) method of reaction, though traces may remain during adult life, in the form of recurrent attacks of migraine, recurrent "sick-headache," recurrent "bilious vomiting," recurrent periods of mental irritability accompanied by anorexia and various gastro-intestinal troubles, or yet other recurrent symptoms.*

---

* Croonian lectures before the Royal College of Physicians, London, 1908.

† Spriggs, "Acidosis," , Quart. Journ. of Med.,' Oxford, 1909, ii, p. 341.

It is significant that, though starvation in healthy persons gives rise to a condition of acidosis, some authorities† strongly advise restriction of carbo-hydrate foods in the diet during the intervals between the attacks of cyclic vomiting in children. Moreover, though alkaline treatment (bicarbonates) is useful during attacks of cyclic vomiting with acidosis, it does not follow that the acidosis is the cause of the cyclic vomiting (and its prodromal somnolence and nervous symptoms).

In this connection one must of course remember that non-diabetic acetonuria or diaceturia, or both, may be observed in association with many various conditions, especially in childhood. I have recently seen the following cases in which acetone bodies were present in the urine:

> CASE 1.—Fatal tuberculous meningitis in a boy (H. D—) aged 6 years. The presence of acetonuria and diaceturia in this case tended to obscure the true nature of the vomiting, which had been the prominent symptom for fourteen days before admission to hospital. The diacetic acid, but not the acetone, disappeared from the urine before the child's death.
>
> CASE 2.—A female child (M. B—), aged 1 year, in whom acetonuria and diaceturia were temporarily present after vomiting and diarrhœa, due to gastro-enteritis, in June, 1916.
>
> CASE 3.—A female child (B. K—), aged 3 years, after vomiting of uncertain causation, possibly an example of "cyclic vomiting," for the mother said that the child had had occasional attacks of vomiting since the age of three months. The symptoms soon passed off.

---

* The various forms of recurrent troubles in adults allied to migraine and the paroxysmal neuroses do not seem as yet to have been sufficiently differentiated.

† Cf. Francis Hare, 'St. Bart.'s Hosp. Journ.,' London, 1908, xv, p. 175. In support of his views he likewise quotes Emmett Holt ('Diseases of Infancy and Childhood,' 1903, pp. 326 *et seq.*), who has seen many cases of cyclic vomiting.

Case 4.—A female child (A. J—), aged 1½ years, with a superficial burn on the face and moderate pyrexia. Satisfactory recovery took place.

Case 5.—A girl (M. P—). aged 12 years, with slight Sydenham's chorea, and acute follicular tonsillitis, from which she soon recovered.

Case 6.—A boy (R. P—), aged 5 years, with pneumonia and temporary acetonuria. He recovered.

Case 7.—A boy (H. D—), aged 5¾ years, after operation for an appendicular abscess. The acetonuria and diaceturia soon disappeared.

Case 8.—A very bad case of appendicular abscess in a girl (E. R—), aged 5 years, who died three days after operation, probably as the result, partly of septic intoxication, and partly of so-called "late chloroform poisoning." At the necropsy the liver was found to be very fatty, and microscopically it showed much "centro-acinous" parenchymatous degeneration. There was jaundice. I did not see the patient during life, but was kindly enabled to examine the urine passed shortly before death; it contained acetone, bilirubin, and albumin.

Case 9.—I will mention another case, though in an adult. It was that of a woman (B. L—), aged 28 years, in her fourth pregnancy, with hyperemesis gravidarum. The acetonuria and diaceturia and the hyperemesis persisted in spite of treatment until the uterus was artificially emptied. After that operation the acetonuria and diaceturia disappeared within about five days.

Case 10.—In a case of hyperemesis gravidarum in which no operative interference was necessary the patient was a primipara (F. B—), aged 27 years; and the acetonuria and diaceturia soon disappeared after the cessation of the vomiting.

In regard to non-diabetic acetonuria and non-diabetic acidosis some recent remarks of Howland and Marriott* may be well quoted here: "We may in many instances liken the mere presence of acetonuria to fever; for it occurs in most of the infectious diseases of children with much the regularity that fever does." Moderate acidosis, they say, is no more unusual or dangerous than moderate pyrexia. But just as pyrexia may be dangerous in itself, so an excessive production of the acetone bodies in itself may determine a fatal outcome. In regard to the "air-hunger" ("Lufthunger") of acidosis they quote L. J. Henderson* as calling the carbonates of the blood "the first line of defence," and go on to explain that the dyspnœa (of acidosis), better termed "hyperpnœa" or "increased pulmonary ventilation," is an agent of the greatest value in ridding the body of carbon dioxide and thus keeping the reaction within normal limits. Hyperpnœa, they remark, is the best of all the evidences of acidosis to be obtained by physical examination alone; hyperpnœa may almost be said to be acidosis.

---

* Howland and Marriott, "A Discussion on Acidosis, with Special Reference to that occurring in Diseases of Children," 'Johns Hopkins Hosp. Bull.,' Baltimore, 1916, xxvii, pp. 63–69.

P. R. Cooper† has recently described "a case of acute pneumonia in an adult complicated at the outset by marked acidosis"; and it would be interesting to know if some of the "hyperpnœa" in certain cases of pneumonia in which only a small proportion of lung tissue is apparently affected, is mainly due to an associated condition of acidosis.

In regard to post-mortem examinations on children suffering from cyclic vomiting (Langmead,‡ J. Comby,§ A. E. Russell‖, etc.), I think it must be admitted that the occasional presence of such conditions as appendicitis, hypertropic stenosis of the pylorus, and degenerative changes in the glands of the stomach, do not throw much light on the true nature and ætiology of cyclic vomiting.

Addendum.

In the discussion on the foregoing paper several further questions were brought up. I had not in the paper entered on the subject of preventive treatment, that is to say, treatment between the attacks of vomiting, but the strict limitation, or avoidance, of fatty foods (including cod-liver oil) is certainly advisable, as well as the prohibition of sweets, etc., between meals, and the avoidance of any overloading of the stomach. An occasional alkaline purge (such as "Gregory's powder") would probably be useful.

I am not sure whether the administration of glucose during attacks of non-diabetic acetonuria and diaceturia is so likely to be useful as it is when the acetonuria and diaceturia are connected with diabetes mellitus.

---

* L. J. Henderson, 'Amer. Journ. of Physiology,' 1908, xxi, p. 427.

† P. R. Cooper, 'Clin. Journ.,' London, 1916, xlv, p. 403. I do not, however, find it stated that the patient had not taken a salicylic drug, nor is it mentioned that the urine was tested for acetone as well as for diacetic acid.

‡ Langmead, 'Brit. Med. Journ.,' *loc. cit.*

§ J. Comby, 'Arch. de Méd. des Enfants,' Paris, 1909, xii, p. 721.

‖ A. E. Russell, "A Case of Cyclic or Recurrent Vomiting associated with Hypertrophic Stenosis of the Pylorus," Brit. Journ. Child. Dis.,' 1910, vii, p. 49.

In my present case (P. H—) the attacks were not severe enough to demand or warrant the intravenous injection of a solution of sodium bicarbonate, such as is frequently employed in the acidosis of diabetic coma, or threatening diabetic coma. Moreover, intravenous injections (such as those of salvarsan) are often very difficult to carry out in small children.

In the present case also there was no accompanying pyrexia, but the association of considerable fever with attacks of cyclic vomiting might be misleading in regard to diagnosis, as many different kinds of pyrexial diseases in children may be accompanied by vomiting and more or less acetonuria and diaceturia. In a hospital case under my care, to which I have shortly referred, persistent vomiting and the presence of acetone bodies in the urine were early signs of fatal tuberculous meningitis.

The acetone smell of the breath was not noted in the case of P. H—, but is of diagnostic value in many cases, especially in the acidosis of diabetic coma.

The percentage of children (about 50 per cent.) mentioned by Dr. Porter Parkinson in the discussion, as showing the presence of acetone bodies in their urine on admission to hospital, is certainly a very high estimate, and it suggests that in the hospital in question the proportion of children who were rather severely ill on admission was a relatively high one.

In regard to the definition of "acidosis" I do not feel inclined to limit the term to the grave cases associated with decided hyperpnœa. There are many degrees of acidosis, and in mild cases the acetone bodies may be more or less in excess in the urine without there being any threatening symptoms present, such as marked hyperpnœa.

In the discussion Dr. Parkinson also mentioned a valuable clinical test to distinguish diacetic acid in the urine from a salicyluric constituent. The test is carried out by adding a solution of perchloride of iron to two specimens of the urine, an unboiled specimen and another specimen which has been previously subjected to prolonged boiling. If, on adding perchloride of iron, a red colour is produced in the unboiled specimen but not in the other, it shows that the urine contained diacetic acid, which in the second specimen has been driven off by the prolonged boiling. This test, however, would unfortunately not reveal the presence of diacetic acid in the urine if a salicyluric constituent were likewise present.

The changes in the liver, found by Dr. Langmead at necropsies on fatal cases of cyclic vomiting with acidosis in children, are very interesting, and there can hardly be any doubt that the liver does really play an important *rôle* in the production of the clinical syndrome in question. But similar *extremely* fatty livers are, I believe, not rarely found in children with rickets who die during attacks of broncho-pneumonia, etc.

CASE OF HEART FAILURE DURING AN OPERATION FOR THE REMOVAL OF TONSILS AND ADENOIDS; HEART MASSAGE THROUGH AN ABDOMINAL INCISION; RECOVERY.*

By W. M. MOLLISON, M.C., F.R.C.S.,
Surgeon to the Ear and Throat Department, Guy's Hospital.

PUBLISHED cases of heart massage are even now not numerous, and successful results are much less numerous, and so I hope the following case may prove of some interest, not only because recovery followed after a considerable period of heart stoppage, but also because during recovery the patient exhibited symptoms which have always been followed by death in previous partially successful cases.

The patient was a boy, aged 6 years. He was slight, but healthy in appearance. He was sent to the Throat and Ear Out-patient Department at Guy's Hospital in August, 1916, by Dr. Chaning-Pearce, with a view to operation on the throat. Last winter the boy had had bronchitis and asthma, and it was considered advisable to remove the tonsils and adenoids on that account.

Operation was performed in the out-patient department on September the 5th, 1916. The usual preparation for an anæsthetic was carried out; a purge was given the previous day, and the patient was given a cup of milk at 8 a.m. on the morning of the operation. On account of the lack of qualified assistants two senior students had charge of the operation under my supervision; on several previous occasions they had successfully carried out similar operations. A mixture of chloroform (two parts) and ether (three parts) was administered on an open mask; without any struggling the boy became unconscious, but the corneal reflex was never lost. The amount of anæsthetic given is not known, but the administrator noted that it was less than he had used before in similar cases. The operation was begun about 1 p.m. The left tonsil was removed successfully; while the right was being removed the boy struggled slightly. He was now turned over on his left side and the adenoids curetted (the operator was left-handed). It was noted that the boy did not struggle while the adenoids were curetted, and he remained inert when cold water was poured over the face; this fact made me realise that the patient was suffering from shock (I had been watching the operation, but taking no active part). On examination the boy was found to be flaccid, respiration had ceased, the pupil was dilated, and the corneal reflex absent.

---

* A paper read before the Section of Anæsthetics of the Royal Society of Medicine on November the 3rd, 1916.

The head was lowered, the throat cleared of the small amount of blood present, the tongue pulled forward, and artificial respiration by Silvester's method begun; air entered the chest quite freely, but the patient's bluish colour persisted, and it became obvious that no improvement was taking place. At the same time stimulants were being administered, hot cloths were applied to the chest and abdomen, brandy and ether were injected subcutaneously, 0·5 c.c. pituitrin was injected subcutaneously, and another 0·5 c.c. was injected through the chest-wall into the heart. No response followed. Examination with a stethoscope by two of us revealed absence of heart-sounds.

I now decided to open the abdomen and massage the heart. The abdomen was washed over with ether and antisepsis carried out as far as possible: an incision about 4 in. long was made from the ensiform cartilage to just above the umbilicus in the middle line; there was no bleeding from the sides of the incision. In the hurry the liver was superficially incised and a little dark blood oozed from it. The right hand was inserted between the liver and the diaphragm, and the heart was easily felt through the diaphragm; there was no trace of movement. With the left hand on the chest-wall and the fingers of the right hand behind the heart, pressure was exerted at about the rate of ninety times a minute; for some moments there was no response, then some respiratory movements began and continued intermittently; the boy's colour improved and his pupil contracted to about 3 mm.; still there was no attempt at heart contractions. This attempt at respiration I suggest was due to the slight artificial circulation produced; blood was driven to the medulla and the respiratory centre stimulated into action. One of the students relieved me at the massage, which proved somewhat tiring; I then resumed, but still failed to get any response. I now injected nearly 1 c.c. of pituitrin into the heart, guiding the needle through the chest-wall towards the fingers of the right hand, thus making certain it entered the heart. Massage was now renewed, and after about twenty more squeezes the heart suddenly began beating strongly.

It is extremely difficult to make definite statements as to times in cases of great urgency, like this one, and in view of the subsequent history it is of great interest to try to arrive at an accurate estimate. The whole incident lasted from 1 p.m., when the operation was begun, to 1.35 p.m., when the boy reached the ward. The operation took a very short time, perhaps three minutes, and the sponging of the face and sponging out of the throat and mouth perhaps another three minutes. This is, I am sure, a generous estimate, but as against that one must consider that the operation may not have started till 1.2 p.m. There was almost no interval between this and the commencement of artificial respiration; it is probable that the heart stoppage came on immediately after the removal of the second tonsil, and thus we arrive at the conclusion that the heart stopped at 1.10 p.m. (allowing an extra four minutes for the process of stoppage, this may well have been 1.5 p.m.). Stimulants were applied and artificial respiration continued for about five minutes probably; this brings us to 1.15 p.m. Now the abdomen was opened; one must allow from one to two minutes for preparation for this, as well as for taking off one's coat, washing one's hands, and washing over the abdominal wall with ether. The incision took only a few seconds; indeed, so rapidly was it made that the liver was superficially incised. Massage was begun at once and persevered with till the heart-beat began; this probably took three to four minutes. As soon as it was certain that the heart was beating well, the liver sutures were inserted, and this, together with the application of dressings, occupied about four minutes, perhaps six: this brings the time to 1.30 or 1.32 p.m.; the further two or three minutes were occupied in carrying the boy to bed. From these time-records it is fairly certain that the time during which the heart was stopped cannot have been less than thirteen minutes and not more than twenty-four minutes. During part of this time, however, some slight circulation must have been going on, because, as I have said, respiratory movements started while the heart was being massaged. I may add that the impression of those present was that the heart had been stopped for fifteen to twenty minutes, and not only were the two students present, but an extremely competent head nurse, who was invaluable, and one other nurse.

The boy's condition was still very poor, and no radial pulse could be detected, but his corneal reflex returned. Two catgut sutures were inserted in the liver to draw the edges of the cut together; two sutures only were put into the abdominal wound and a rough dressing applied, and the boy carried to the ward.

Saline infusions were given, and the foot of the bed raised considerably. About an hour later he became restless, and his limbs were rigid or made choreic movements, and the intestines escaped from the wound. My colleague, Mr. E. C. Hughes, kindly operated under light ether anæsthesia and sutured the wound, no drainage being employed.

On recovery from the anæsthetic the choreic movements returned; he ground his teeth, and at one time there was rigidity of the right arm with conjugate deviation of the eyes to the left and upwards.

For the subsequent history of the case I have to thank my house-surgeon, Mr. Wilson, and the sister of the ward, both of whom made careful notes while I was absent on a holiday.

To sum up the history of the next fourteen days: for seven days the boy was more or less unconscious, though he could recognise his mother now and then; consciousness then gradually returned (with relapses). For ten days there was rigidity of the limbs, or choreic movements—at one time both feet and hands were held in the position of tetany. From September the 8th to September the 12th he frequently cried out shrilly (meningitic cry); for thirty-six hours the screaming was almost continuous. For about twelve days he had incontinence of fæces, and for fifteen to sixteen days incontinence of urine (though there was one day on which he had retention of urine for twenty hours). On September the 15th he became very violent, tore his bed-clothes, and tried to eat his blanket. Shortly expressed he had symptoms of severe cerebral irritation, no doubt due to the damage done to the brain during the cessation of the circulation.

At the end of fourteen days he had much improved, and on September the 21st I saw him again; he lay quietly in bed; tried to put his fingers in his mouth; answered questions as to name and age correctly; could not remember what he had for dinner; could count up to twelve, but beyond that he got mixed. On September the 22nd he could sit up; he still had incontinence of urine. The nervous system seemed normal. He made eventually a perfect recovery, and left the hospital on October the 19th. His mental condition appears quite normal now, and he is mentally fully up to the standard of a child of six.

I submit a table of the published successful cases.

There is one other case published in the 'Journal of the American Institute of Homœopathy,' but unfortunately I cannot find this journal, and so do not know whether the case was successful.

	Name of operator.	Anæsthetic.	Time of ordinary methods.	Time taken to restore heart.	Method.	Operation being performed.
1.	Igelsrud .	?	3–4 min.	1 min.	Resection of ribs and opening pericardium	Abdominal
2.	Lane . .	Ether	2–3 min.	1 or 2 squeezes	Subdiaphragmatic	Ditto
3.	Gray . .	?	?	2 or 3 squeezes	Ditto	Ditto
4.	Cohen . .	$CHCl_3$	2 min.	1 min.	Ditto	Ditto
5.	Crile . .	Ether	Nil.	5–6 min.	Rubber suit. method	Exophthalmic goitre
6.	Sencert .	$CHCl_3$	7–8 min.	5 min.	Subdiaphragmatic	Abdominal
7.	Conkling .	Ether	2 min.	1 min.	Through chest wall	Region of chest wall
8.	Smith . .	$CHCl_3$	3 min.	1 min.	Subdiaphragmatic	Examination of rectum
9.	Ramsay .	$CHCl_3$ and ether	4 min.	1 min.	Ditto	For prolapse of uterus
10.	Rutherford .	$CHCl_3$	1–2 min.	12 squeezes	Ditto	Whitehead's operation
11.	Milne . .	CHCl	2 min.?	1 squeeze.	Ditto	Operation not begun
12.	Sichell .	C.E. and ether.	1 min.?	"A short time"	Ditto	Ditto
13.	Frazier .	Ether then $CHCl_3$	1–2 min. or less	2 min.	Ditto	Hydrocele just begun
14.	Mollison .	C.E.	13 min.	4 min.?	Ditto	Removal of tonsils and adenoids

The first nine cases were quoted by Green (*Lancet*, 1906, ii, p. 1708); only in case 9 is any note made of after-effects. In case 9 it is noted the patient slept for four hours and was at times delirious. She was better the next day.

It will be noticed that in most of the cases only a short time elapsed before massage was begun, and indeed in some of the cases one wonders whether the heart would not have recovered without the massage.

It was Green, in 1906, who pointed out that really the partially successful cases were the most interesting, as showing the great vitality of the heart. In all these partially successful cases, where the patients have lived for periods varying from two to twenty hours, the symptoms noted have been unconsciousness or semi-consciousness, rigidity or cramps in the arms, incontinence of urine. It was Russell who pointed out that these symptoms also occurred in cases of temporary cerebral anæmia from various causes, other than heart failure under anæsthetics. These statements rather lead me to think that my case is, as it were, a link between success and failure. Indeed, probably the strongest evidence that the circulation was arrested for some long time, even if the heart had not stopped beating, lies in the after-history.

I take it there are two lessons to be learned, the first that heart massage ought not to be postponed too long, probably not longer that five minutes after heart stoppage has occurred; the second, that even if a longer time has elapsed, massage ought always to be carried out through an abdominal wound. The real difficulty lies in making up one's mind that the heart will not recover without some desperate measure; it would be most unwise to lay down a rule that subdiaphragmatic massage should at once be undertaken in every case of heart failure under an anæsthetic.

Two other problems arise in connection with the case: Why did the boy have heart failure? Was it that anæsthesia was too light, or was it a case of vagal inhibition? Were contractions continuing in the auricles, but not getting through to the ventricles? And did the pituitrin play any special *rôle* in assisting recovery, or did it lead to any of the symptoms during the period of recovery? Of none of these am I competent to suggest any solutions.

A RETROSPECT OF OTOLOGY.

By Macleod Yearsley, F.R.C.S.,
Otologist to L.C.C. Deaf Schools; late Senior Surgeon to the Royal Ear Hospital; etc.

The war continues to affect the literary output of medicine and surgery, and that of otology is not the only one of the special branches to suffer. In general, the chief surgical literature deals with the injuries of battle, and pædiatrics have no concern therein.

It is interesting and, to those who venture to try and think for future generations, satisfactory to note how, year by year, the tendency in otological literature is towards prevention. Glancing through a list of twenty-two papers that have been selected for notice in this retrospect, one finds that no less than eleven of them deal more or less directly with the prophylaxis of deafness and ear disease in children. The otologists, it is to be regretted, are not altogether the people to whom thanks are owing for this; the majority of them seem still to be too fascinated by the blandishments of fine distinctions in mastoid operations or new methods of eliciting nystagmus to be able to look round on the magnificent field that the prevention of deafness offers for the enthusiastic investigator. Probably the otologists will be the last to enter that field as a body, as new movements often find their greatest obstructions in the inertia of old prejudices. If the transactions of the Otological Section of the Royal Society of Medicine for 1916 be examined, it will be found that out of twenty-four items discussed only four could have any possible bearing on prevention (three having to do with otosclerosis and one with catarrh in persons over middle age). Of the remaining twenty, eight deal with mastoid operations, eight with the external auditory canal and injuries, the remaining four with malignant disease, tinnitus, otogenic facial paralysis, and congenital syphilis.

The most important papers and articles that are concerned with the prophylaxis of ear disease and its resulting deafness are as follows:

"The Prevention of Respiratory Diseases in Early Life," by R. Haynes ('Arch. of Ped.,' xxxiii, p. 81), and the "The Reaction of the Child to a Faulty Environment," by H. C. Cameron ('Practitioner,' xcvii, p. 246) deal with the catarrhal troubles that lead to so much primary ear disease in infancy and childhood; and a paper on "Complications in Tonsil and Adenoid Work with Special Reference to Chronic Suppurative Otitis Media," by H. M. Becker ('Annals of Otology,' xxv, p. 439) contains some useful remarks upon the unnecessary occurrence of middle-ear suppuration after operations on the fauces and naso-pharynx.

Yearsley (BRITISH JOURNAL OF CHILDREN'S DISEASES, xiii, p. 129) discusses the anomalous and inadequate directions of the Board of Education as to "Hearing Tests in School Children."

A good deal of work has been done in the direction of prevention in regard to some of the infective diseases, notably measles, epidemic cerebro-spinal meningitis, and congenital syphilis. In a leading article, "The Notification of Measles," in the 'Journal of Laryngology' (xxxi, p. 273), Yearsley points out the high death-rate in children from measles and the high deaf-rate from the same cause. He welcomes the order of the Local Government Board as a firm step towards the prevention of deafness. The 'Practitioner' (xcvi,

p. 1) published a series of papers by Sir William Osler, H. D. Rolleston, M. G. Foster, A. G. Rob, and J. F. Gaskell upon the treatment, and one by H. Sutherland upon the causes, of cerebro-spinal meningitis. The latter author speaks also upon "The Origin and Prevention of Cerebro-spinal Meningitis" in the 'Lancet' (1916, ii, p. 828). All these papers have a bearing upon the prevention of deafness, since the percentage of cases of deafness following spotted fever has increased, in the reviewer's experience, from 0·16 to 0·66 in the past four years.

With the issue of the Report of the Royal Commission and the activity of various bodies, the question of syphilis, and especially of the congenital form of the disease, is at last receiving active attention. Among the many papers which have been published during the year on this subject, the following are the most useful: "Syphilitic Disease of the Ear," by J. G. Fraser" ('Edinb. Med. Journ.,' xvii, p. 5); "The Value of the Luetin Reaction in Congenital Syphilis," by M. B. Gordon ('Arch. of Ped.,' xxxiii, p. 186); "The Medical Profession in the Camp *versus* Venereal Disease," by Otto May" ('Lancet,' 1916, ii, p. 893); and "The Problem and its Solution" ('Interstate Med. Journ.,' xxiii, p. 600). The last-named deals with syphilis from many points of view.

Among miscellaneous papers attention is drawn to the following:

Middle-ear Suppuration.—J. Guttman ('Annals of Otology,' xxv, p. 389) suggests, in a paper entitled "An Improved Method of Draining the Tympanic Cavity in Purulent Otitis Media," a reversion to an old method, the trephining of the tympanic membrane. A. Bardes writes a useful article on "The Discharging Ear" ('Med. Record,' xc, p. 588, and J. A. Colliver ('Arch. of Ped.,' xxxiii, p. 434) discusses "Obscure Manifestations of Otitis Media in Infancy and Childhood." This writer is not an otologist, and although the facts as to the otitides of infectious diseases, influenza, etc., with which he deals, are most of them well known to aural surgeons, it is good that they should be brought before the general medical public by one who is not a specialist.

Marriage ('Journ. of Laryngology,' xxxi, p. 3) writes upon "Skin-grafting in Mastoid Operations." Disliking the idea of two operations where one may be sufficient, he prefers to use a primary skin-graft.

The *Complications of Middle-ear Suppuration* are represented by several papers. Attention is drawn to the case of a boy, aged 13 years, reported by Dan McKenzie ('Journ. of Laryngology,' xxxi, p. 38), in whom a lateral sinus thrombosis was followed by a tuberculous abscess in the gluteal region simulating a pyæmic abscess. *Cerebellar Abscess* is the subject of two papers in the 'Annals of Otology.' One, "The Diagnosis of Otitic Cerebellar Abscess," by A. Braun (xxv, p. 1), is a valuable and exhaustive contribution. It contains records of eighty-six cases, of which twenty-two were of ages varying from four to sixteen. A natural corollary of this paper is that by J. Friesner on "The Etiology and Pathology of Otitic Cerebellar Abscess."

Three other papers require notice: "Vincent's Inflammation of the Middle Ear and External Canal," by J. Adam ('Journ. of Laryngology,' xxxi, p. 31), in which it is pointed out that infection by the ear of Vincent's organism is a graft upon a previous infection and that the disease is one of gross neglect; "Tuberculosis of the Middle Ear," by W. B. Graham ('Annals of Otology,' xxv, p. 105), which describes nine cases, six of which occurred in children; and a "Final Report on the Isolation and Cultivation of the Tubercle Bacillus from the Discharging Ear in Cases of Chronic Purulent Otitis Media," by G. H. Cocks and J. G. Dwyer ('Journ. of Laryngology,' xxxi, p. 288).

Royal Society of Medicine.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Friday, October the 27th, 1916.

The President, MR. SYDNEY STEPHENSON, *in the Chair.*

A Family showing Cleido-cranio-dysostosis.—Dr. FREDERICK LANGMEAD.—In the family of which some members were exhibited the condition appeared to have been present during four generations. Personal observation had been made only in the present family group which numbered six alive and one dead

(1) A. W—, aged 7½ years: Each clavicle was in two parts, a sternal three-fourths and an acromial fourth. The outer extremity of the sternal portion was situated about ½ in. above and anterior to the inner extremity of the acromial portion. The fontanelle was closed and there were no open sutures. Frontal sinuses normal. Palate narrow and arched. Teeth good and regular. Little fingers short, reaching just beyond the proximal interphalangeal joint.

(2) B W—, aged 6 years: The acromial extremity of each clavicle just failed to meet the acromion and was unduly mobile. Nothing particular about the cranial vault, but the palate was narrow and very arched. Teeth normal.

(3) M. W—, aged 5 years: The left clavicle did not quite reach the

acromion and was unduly mobile. About its mid-point there was a sharp bend forwards, the apex of which was somewhat thickened. The right clavicle showed the same malformation as that of A. W—. Anterior fontanelle measured 2½ in. laterally and 3½ in. antero-posteriorly. Palate very narrow and arched; no other cranial change.

(4) V. W., aged 3 years 8 months: Right clavicle small and movable; left clavicle tailed off to the outer end, and had a sharp lower edge with forward projection near the centre. The forehead was large and bossed, and over it the veins were dilated, particularly in the bregmatic region. There was obvious nasal obstruction. The anterior fontanelle was large, measuring about 3 in. in each direction; in front it communicated with a patent metopic suture; below it was continued as a definite groove which terminated in a posterior fontanelle admitting a finger tip The palate was highly arched. There were some signs of rickets in the beading and shape of the thorax, the enlargement of the lower end of the radii, and the prominent abdomen. The liver edge reached for about 1½ in. below the costal margin.

(5) Twin (with V. W—): Died as an infant from progressive hydrocephalus. No other particulars known.

(6) G. W—, aged 2 years: Right clavicle normal. Left clavicle: Curves very exaggerated and acute bend in its middle; fontanelle closed. Palate very arched and narrow. Dentition: Twelve teeth erupted which were well formed.

(7) W. W—, aged 8 months: The inner half of the right clavicle was present and rather more of the left. The anterior fontanelle was about 4 in. in breadth and the metopic suture patent. Posteriorly it nearly reached the posterior fontanelle, which measured about 1½ in. in each direction. Palate very arched and narrow. Some exophthalmos.

Mrs. W— (mother): Left clavicle normal; sternal three-fourths only of right clavicle present. Palate very arched. Cranial vault large and somewhat overhanging. The fontanelles were said to have been very large and not to have closed until she was aged about 20 years.

None of the cases showed any obvious defect of the frontal sinuses or facial bones, and the stunting of the little fingers was confined to the oldest child. There were no sternal abnormalities.

Case of Supposed Intrathoracic Neoplasm.—Dr. C. E. Lakin showed a girl, aged 16 years, who first came under his observation in May, 1914, when she showed enlargement of the veins of the right side of the chest, dulness on percussion over the manubrium sterni, and over the neighbouring part of the chest wall, immediately to the right, and intense tubular breathing over the dull area. The veins filled from above. A screen examination showed a definite shadow above and to the right of the heart, and a diagnosis of an intrathoracic neoplasm compressing the vena cava superior, and probably malignant in nature, was made. The blood gave a negative Wassermann reaction.

In September, 1914, intense tubular breathing was audible over the whole of the upper lobe of the right lung, and there was defective resonance on percussion over the same area. In January, 1915, numerous râles had appeared, but the general condition of the patient was not worse. In June, 1915, râles had disappeared, but intense tubular breathing was still heard over the manubrium sterni and less intense bronchial breathing over the upper lobe of the right lung. In April, 1916, rhonchi were heard over the right upper lobe especially, but the breath sounds over the manubrium were diminishing in intensity. When it became clear that the intra-thoracic condition could not be malignant in nature the differential diagnosis lay between a benign neoplasm and a mass of tuberculous glands.

Hypopituitarism.—Dr. E. A. Cockayne showed a boy, aged 9 years, who had appeared healthy and intelligent at school until two years ago. He then became languid, and complained of severe headaches. Later muscular weakness was noticed. Gait began to alter eight or nine months ago, and speech became slurring and indistinct. Sometimes he complained that he could not read owing to lines appearing blurred. No fits. No polyuria. Began to get fat six months ago. Father treated recently for locomotor ataxia. Mother had had seventeen pregnancies. There had been seven to nine miscarriages (second to sixth months), and four or five children had been premature, two stillborn. Patient born at full term. Two children alive and well

On admission to the hospital on July the 5th, 1916, the child was dull and apathetic, with continual tremor of arms and legs. He talked intelligently for a time, and then lapsed into baby talk and speech slurring and indistinct. Gait unsteady. Knee-jerks exaggerated. Ankle clonus present on both sides. Plantar response flexor. Triceps-jerks exaggerated. Pupils: Right reacted to light and accommodation; left reacted slightly and very sluggishly. Mr. Attlee reported that both discs are chalky white, with very small arteries (optic atrophy). Vision: Right, $\bar{c} + 1{\cdot}5 = \frac{6}{36}$; left, $\bar{c} + 1{\cdot}5 = \frac{6}{60}$. Bulging forehead. Teeth slightly peg-shaped. Very marked deposit of fat all over body, but especially in mammary region, round pelvis, pubic region, hips, and thighs. Penis very small. Testicles small. Genu valgum. Wassermann's reaction positive on July the 10th.

Three intramuscular injections of galyl were given: 0·1 grm. on July the 21st, 0·15 grm. on July the 27th and August the 2nd. He had become slightly worse, and for the first time some loss of control of bladder and anal sphincters had been noticed. On August the 11th Wassermann reaction in blood markedly positive.

Werdnig-Hoffmann Type of Spinal Muscular Atrophy.—Dr. Cockayne also showed a male infant, aged 3 months. First child. No history of similar condition in family. Healthy at birth. Up to the age of 14 days used to kick and suck his thumbs. Then he began to lose power gradually, and to cry less often. He now lay with arms everted and pronated. The fingers were partially flexed, and the thumbs extended. He could move his arms a little, but the lower limbs, except the feet and toes, were paralysed. The upper and lower limbs, neck and back muscles were in a condition of flaccid paralysis. There was some paralysis of the intercostal and abdominal muscles, but the diaphragm moved normally. Abdominal reflex, knee-jerks, and Achilles-jerks absent. Sensation appeared to be unaltered. In the leg and arm muscles reaction of degeneration was present. Some wasting could be detected, but the child was gaining weight. The child took notice and smiled. Profuse sweating occurred daily. Bronchitis had been present for some weeks.

Papulo-Necrotic Tuberculide.—Dr. J. L. Bunch showed a youth, aged 17 years, who had been under his care for ten years. He first developed a skin eruption at the age of 4 years. This began as a simple red patch near the umbilicus, on which small, red nodules showed themselves later. The nodules were slightly raised, papular in character, and distinctly infiltrated, but small and apparently quite superficial They were always succeeded by a shallow scar about $\frac{1}{8}$ in. to $\frac{1}{3}$ in. in diameter. In 1906 there were about thirty of such scars round the umbilicus, and the skin of this area was dry, scaly, and red, and covered with a fine desquamation. On the inner sides of the thighs, and for some distance round each axilla, there was a circumscribed, irregular, superficial, pinkish dermatitis, with a similar fine scale on the surface.

During succeeding years the areas which formerly only showed a superficial dermatitis had become covered with a number of small, shallow, atrophic scars, similar to those round the umbilicus, which had persisted. Still more atrophic scars had made their appearance over the skin of the abdomen, so that, at the present moment, there were a very large number of scars. The disease was progressive, for fresh lesions continued to appear. Before any fresh area showed any signs of papules or scars, it was, for some long period previously, invaded by a characteristic, scaly dermatitis.

Inoculation experiments on guinea-pigs and microscopic examination of the lesions proved that the lesions are tuberculous.

Tuberculin treatment, and especially Rosenbach's tuberculin treatment. improved the condition for a time, but relapses occurred.

Many methods of treatment had been tried, but, although they alleviated, none seemed capable of curing the disease. The patient's general health was good, and no signs of other tuberculous disease could be detected.

Pityriasis Rosea with Unusual Distribution.—Dr. Bunch also showed a girl, aged 8 years, who had developed a typical eruption of pityriasis rosea a week ago, so far as the trunk was concerned. But, six or seven days before this eruption appeared, a "herald" patch made its appearance in the right frontal region, and was still well marked.

Demonstration of Speech-records from Case of Hypopituitarism.—Dr. E. W. Scripture.

Cerebral Diplegia with Abnormal Flexibility of Joints.—Dr. F. Parkes Weber (*v.* p. 31).

Friday, November the 24th, 1916.

Dr. Leonard Guthrie, *ex-President, in the Chair.*

Family Splenomegalic Acholuric Jaundice.—Dr. Leonard Guthrie.—A girl, aged 10 years, was brought to hospital on September the 7th, 1916, on account of her yellow skin and occasional "bilious attacks." At the age of 9 years she had icterus for a short time, and has always been slightly yellow since. The "bilious attacks" at first occurred monthly, but she had only had three in 1916. They usually happened in bad weather. She did not vomit, but complained of headache, nausea, and of feeling seedy. The yellowness became darker, the urine "like tea," and the stools remained brown during these attacks, which lasted two or three days. In the intervals she was perfectly healthy.

Past history.—She was subject to bronchitis until tonsils and adenoids were removed at the age of $2\frac{1}{2}$ years.

Family history.—No history of tuberculosis. Mother healthy. Father had icterus at the age of 9 years for a short time and had been yellow ever since. Three years ago he was told that he had a large and "interesting" spleen. Until three years ago he was liable to attacks of gastritis, but since wearing a belt, and dieting himself, he had been better, though he always felt unwell in bad weather. There were three children, all girls, in the family, and one died (the first-born) of meningitis at the age of 10 months. The second daughter has suffered from ascites (see next case). The youngest, aged 3 years, had quite recently become sallow like her sister; the spleen could be easily felt below the ribs, and the conjunctivæ were slightly icteric.

Present condition.—A well-grown fairly healthy looking girl. No complaint of any kind. Lips and mucous membranes distinctly pale. Skin generally of a pale brownish-yellow hue. Conjunctivæ of a primrose yellow, which varied in depth from day to day. Heart and lungs healthy. Faint systolic (hæmic) bruit heard at cardiac base. Pulse regular, rate 96, fair tension and volume. Abdomen not distended. Spleen could be felt 7 cm. below costal margin in nipple line. It was smooth and rather hard. Both anterior and posterior borders could be palpated, and the organ could be nearly encircled by hand. The enlargement was downwards rather than towards the umbilicus. Liver could be felt 2 cm. beneath the costal margin. Its edge was smooth. Submaxillary glands enlarged, but not shotty. Urine: Acid, clear, dark in colour; it contained no bilirubin, but gave the chemical reaction for urobilin; spectroscopic test not available; albumin, sugar, acetone, bile absent. Stools very deeply pigmented brown; apparently free bile present. Blood: Wassermann reaction negative; red blood corpuscles, 3,320,000 per c.mm.; white blood corpuscles, 5000 per c.mm.; hæmoglobin, 65 per cent.; colour index, 1; poikilocytes, present; polychromatophilia, slight; nucleated red cells, none. Differential count: Polymorphonuclears, 67·6 per cent.; small lymphocytes, 27·2 per cent.: large mononuclears, 3·2 per cent.; eosinophilia, 1·2 per cent.; mast-cells, 0·8 per cent. Fragility of red blood corpuscles: Mr. Herbert Perkins reported that blood was completely laked by salt of 0·4 per cent., whilst hæmolysis was completely inhibited by salt of 0·5 per cent. Two control bloods examined at the same time under identical conditions were completely laked by salt of 0·3 per cent., whilst hæmolysis was completely inhibited by salt solution 0·4 per cent.

Ascites of Obscure Origin.—Dr. GUTHRIE also showed a girl, aged 7 years 7 months, sister of the first case, who was admitted to hospital on May the 10th, 1916, for swelling of the abdomen, noticed two days.

Family history.—See Case 1.

Past history.—Measles, whooping-cough. A very nervous child, subject to "habit chorea" for about three months. Otherwise perfectly well until three weeks ago, when frequency of urination commenced. No large amount of urine was passed. There was slight pain before micturition in the lower abdomen and at the pit of the stomach. Bowels always regular, no diarrhœa, no vomiting, no cough or night sweats. She had been to school until the week of admission.

Condition on admission.—A fairly well-nourished and well-developed child. Skin a little sallow, but lips and mucous membrane of good colour. Thorax: Well shaped; lungs clear on auscultation and percussion; heart not enlarged, sounds clear and strong, a systolic hæmic murmur heard at base and along sternal margin. Abdomen: Much distended, flanks bulging, dulness practically everywhere up to umbilicus, and fluctuation easily elicited. No pain or tenderness on palpation, liver and spleen could not be felt owing to abdominal tension. No glands or other masses were palpable. The swelling had only been noticed for two days, and had rapidly increased. Lymph glands nowhere enlarged. Urine: Acid, clear; trace of albumin; occasional finely granular casts seen under microscope.

May the 14th, 1916.—Von Pirquet's reaction positive but late in appearance. Temperature, 97° to 100° F. Abdominal circumference, 63 cm. Child made no complaint of pain. There was no frequency of micturition now.

May the 21st.—Abdomen much more distended. Child no longer able to sit up. Heart displaced upwards, maximum impulse in second intercostal space.

May the 29th.—Operation became necessary owing to displacement of heart and embarrassment of respiration. Mr. FitzWilliams opened the abdomen and evacuated about a gallon of fluid. Patient bore the operation well, and in the evening said she could breathe much better. The heart's apex had descended to the third left interspace.

June the 1st.—Patient much more comfortable since operation. Heart's apex now in fourth interspace. Abdomen still considerably distended, but by flatulence. Temperature subnormal or normal.

June the 11th.—Patient sitting up and quite happy. Abdomen fairly natural-looking. A little fullness still present. In appendix region was a small indefinite mass, and to the left of umbilicus are numerous small deep irregularities. No definite large mass or band of adhesions to be felt. Liver and spleen not palpable.

June the 26th.—Sent to convalescent home for a fortnight. Patient was perfectly well and had no symptoms of any kind. She has been under observation until present time. There had been no return of fluid, the liver and spleen were not enlarged, and no masses of any kind had been detected in the abdomen.

Nothing was known of the family history of splenomegalic acholuric jaundice until after her discharge from hospital. The ascites was regarded as tuberculous. The positive von Pirquet's reaction, the slight pyrexia, and the discovery after evacuation of the fluid of small indefinite masses which might have been glands are in favour of tuberculosis. No tubercles were seen at the time of operation, but no special search was made for them. On the other hand, if tuberculous, the course of the ascites was unusual. The amount of fluid in such cases was seldom excessive, it did not increase rapidly, and it subsided as a rule under rest in bed and graduated pressure. In this case, under similar treatment, the fluid rapidly increased and caused such pressure and displacement of the heart and lungs that operation was inevitable. The question of possible relationship between the ascites and the family complaint therefore arose. The patient up to the present had not been jaundiced, nor was the spleen enlarged, nor was she markedly anæmic like her father and sisters. But she might possibly develop these symptoms later, and the ascites might be an early and unusual manifestation of the family complaint.

Dystrophia Adiposa Genitalis, with Congenital Lues.—Dr. Frederick Langmead showed a boy, aged 15 years, who had always been backward. For the first three years of his life he was under constant medical care for "general weakness, wasting, and skin rashes." He did not walk until the age of 3 years, and could not speak distinctly until aged 4 years. At school he did not learn, take part in games, or make friends with other boys. When he was aged 13 years it was noticed during routine examination that he could not see with the left eye. After leaving school he started work (upholstering), but seven weeks later caught his fingers in a machine, and two of them had to be amputated. Soon afterwards he developed a facial tic, which persisted. He was stunted and obese, and feminine in build. Mentally he was childish, equal perhaps to a child aged about 7 years. His scrotum was divided by a deep groove, but without actual cleavage, and the general appearance of the external genital organs was feminine. The penis was very small, and the testicles were rudimentary. He had some want of control over the bladder, but there was neither polydipsia nor polyuria, the amounts passed in twenty-four hours varying from 13 oz. to 50 oz., and averaging about 30 oz. There were well-marked stigmata of congenital lues in the scars at the angles of the mouth, Hutchinsonian teeth and eyes. Ophthalmoscopic examination showed advanced disseminated choroiditis with waxy atrophy of the disks much more marked in the left eye than in the right. The visual defect was therefore local in origin. A skiagram showed perhaps a little smallness of the pituitary fossa and prominence of the posterior clinoid process. About 130 grm. only of dextrose could be retained, and these were followed by no glycosuria. The sugar content in the blood was about normal. His father died when aged 45 years from general paralysis, and his mother had tabes dorsalis. An elder sister aged 21 years, and a younger brother aged 8 years, were in good health.

Diabetes and Infantilism.—Dr. J. Porter Parkinson.—A girl, aged 10 years, who had been healthy and fat till four years ago, since when she had become much thinner, been very thirsty, and had had an excessive appetite; for about three months the parents had noticed that she passed excessive amounts of urine. The family history was very good; there are three other children quite healthy and patient has had no previous illnesses. Patient had hardly grown at all in the last four years.

On admission to the hospital in April, 1916, she was seen to be much undersized and very thin; her height was 41 in. and weight 35 lb., in other words the height of a child aged 5 years, and her weight under the average for that age. The thoracic and abdominal organs appeared healthy, but she passed from 30 to 60 oz. of urine a day, containing usually from 400 to 800 gr. of sugar, but occasionally amounting to about 2000 gr. a day due to increased output of urine, the amount of sugar to the ounce of urine being 15 to 20 gr. to the ounce. The specific gravity of the urine was about 1040; there was usually a well-marked acetone reaction, but no albumin casts, pus, or crystals.

She was given a fairly strict diabetic diet without any result in lessening the output of sugar, and 3 gr. of opium daily also produced no result. From time to time the patient was starved for twenty-four hours, taking nothing but black coffee and well-boiled cabbage, and after each of these fasting days the amount of sugar was very appreciably lessened, being often about a quarter of the usual average, though it had no effect on the output of water. After five months the patient left the hospital in much the same condition as on admission, having only gained 2 lb. in weight.

Skiagrams showed that the sella turcica was normal in size and shape in proportion to the small size of the skull. It measured antero-posteriorly 8 mm., and in depth 7 mm. The radial epiphyses were markedly abnormal in size and shape. All the centres of ossification of the carpal bones had appeared, but the size and shape of the bones themselves suggested those of a child of six.

Growth seems to have almost ceased for the past five years, during which time the symptoms of diabetes had been present; there is no evidence of affection of any gland except the glycosuria. The infantilism was of the Lorain type.

Case of Dermato-myositis.—Dr. E. Bronson (for Dr. G. A Sutherland).—A girl, aged 5 years, was admitted to hospital on August the 29th, 1916, with the complaint of rheumatism. One month before admission she had had pains in hands and a week later in legs as well. Gradually all joints in her body became sore, spine, fingers, and toes, as well as arms and legs. She was about the house until one week before entering hospital, when she was put to bed on the advice of the family physician. She had had no sore throat. Nothing abnormal had been noticed about the digestive and urinary system.

Past history: Generally healthy child. Only illnesses, measles and chicken-pox.

Family history negative.

Condition: On admission the skin was moist, smooth, and showed no eruption; over the hands and wrists, one could not pick up skin from subcutaneous tissues, nor subcutaneous tissues from muscles. This condition extended up the forearms, ending gradually below the elbows. There was distinct swelling, slight flushing, local temperature, and tenderness on palpation. Movement at the wrist was painful. The fingers were flexed in a claw position, and could not be completely extended. In the popliteal space there was a condition similar to that in the forearms, and tenderness was especially noticeable here. The toes were similar to fingers, but to a less degree. Patient was not able to flex spine normally, and complained of pain when the head was brought forward.

Further examination showed no pathological conditions, except hypertrophied and unhealthy tonsils, and a slightly enlarged spleen. Urine examination negative. Wassermann and von Pirquet reactions negative.

Blood examination showed: Hæmoglobin, 92 per cent.; red blood cells, 5,180,000; white blood cells, 23,000. Differential count: Polymorphonuclears, 50 per cent.; small lymphocytes, 36 per cent.; large lymphocytes, 4·8 per cent.; eosinophiles, 3·6 per cent.; basophiles, 1·6 per cent.

During a three weeks' stay in the hospital there was no noticeable improvement, except a diminution of pain. Tonsillectomy was performed with no complications. She was under observation as an out-patient for six weeks. During that time the induration increased in extent, and the mother stated that the child was unable to run or go upstairs rapidly. There was still complaint of pain, but less than when admitted to the hospital.

Patient was readmitted on November the 11th, 1916, with generalised hardening of subcutaneous tissues and muscles. The skin over forearms and legs was slightly flushed, and face much flushed. There was a marked *tache cérébrale.* Nowhere over body—face, back, thorax, abdomen, and extremities—could one pick up the skin from the subcutaneous tissues, nor the subcutaneous tissues from the muscles. On the upper half of the anterior surface of the thighs, over the gastrocnemic and deltoid muscles, were slightly raised indurated pads of tissue. No marked tenderness was elicited anywhere. The joints moved freely within a range limited by induration of overlying tissues. The tongue was protruded freely, and speech was unimpaired.

She had had radiant heat baths, in which she perspired freely, and massage for the past two weeks. During this time there had been noticeable softening of the subcutaneous tissues, especially over flexor surfaces of arms and legs, also on face, back, and abdomen.

Hereditary Neuro-fibromatosis (von Recklinghausen's Disease).—Dr. E. A. Cockayne.—The mother of the children was of dark complexion. She had numerous freckles and there were many *café-au-lait* patches on the trunk and limbs. On the dorsum of the left wrist and right hand were sessile molluscous tumours, bluish in colour. Above the left breast was a patch of thickened skin which was irregular in shape and was probably neuro-fibromatous in nature. Above the sacrum there were some pendulous molluscous tumours. She had only two children. The elder, a boy, aged 5 years 7 months, had a number of *café-au-lait* patches on the trunk, situated both in front and behind. Most of them were oval. He had also an irregular raised area of skin of a bluish-red colour above the left nipple. All these were present at birth. He was nervous and restless, but not mentally defective. The younger child, a girl, aged 10 months, had several oval *café-au-lait* patches on the trunk, especially over the sacral region. These had been present since birth. She appeared to be of normal intelligence. The mother knew of no other cases in the family.

Hereditary and Familial von Recklinghausen's Disease.—Dr. J. D. Rolleston showed two sisters, aged 19 and 11 years respectively, who had previously been exhibited at the Clinical Section in 1911 with their father, who was a typical example of von Recklinghausen's disease (*vide* British Journal of Children's Diseases, 1911, viii, p. 123, and 1912, ix, p. 281). The mother was not affected.

The eldest daughter since 1911 had developed a large spherical tumour on the inner side of the right upper arm. It was freely movable and quite painless. It was probably a plexiform sarcoma like the swelling which had been removed from her upper lip. The molluscum *café-au-lait* patches and punctate pigment spots had not shown any decided increase in number or size since 1911.

In the younger girl the *café-au-lait* patches and punctate pigment spots had increased in number and size, but no molluscum had developed.

Case for Diagnosis.—Dr. E. Pritchard showed a boy, aged 9 years, who had been knocked down by a motor-car and on the next day had cough and pain in the chest. The chest on the left side had become smaller and was dull on percussion except for a small area to the left of the vertebral column, where it was resonant, and a tympanitic area in the left axilla. The heart sounds were very weak. A skiagram showed considerable opacity on the left side. The heart was drawn over to the left.

Speech Records in Cerebral Diplegia, with Indications of a New Method of Treatment.—Dr. E. W. Scripture.

Philadelphia Pediatric Society.

April the 11th, 1916, Dr. JOHN F. SINCLAIR, in the chair.

Siamese Twins.—Dr. J. T. RUGH.—A doctor was called to attend a mother in labour for her third pregnancy. The other two labours had been normal and the children normal, but there was a history that on the maternal side every female member for three generations who had borne several children, had had one child that was defective in some respect. After considerable difficulty the woman was delivered of Siamese twins. The twins had been brought to Philadelphia with the idea of trying to make them grow and to reach a condition in which they could be operated upon. It was found that each child had its own gastro-intestinal system which was entirely distinct from the other child's. They seemed, however, to have a common liver. In one experiment, one of these children had been given methylene blue by mouth and both children had passed blue urine. Collectively the children have weighed 9½ lbs at birth, the greatest weight being 10 lbs. and 2 ozs. They had no trouble with their gastro-intestinal system and had been able to digest the food given them, which was a 3–6–1½ mixture. At the present time their circulation was beginning to show evidence of failure, and it did not look as though they would live. The children were connected from the middle of the sternum to the middle abdomen, the umbilicus being underneath the band of union.

The Teaching of Infant Feeding.—Dr. J. P. CROZER GRIFFITH said that the experience of a good many years of teaching pædiatrics at the University of Pennsylvania enabled him to look back over the developments which had taken place during these years. When he first commenced to lecture on the subject, 25 years ago, the pasteurizing of milk was just coming into vogue. About the same time, too, the first systematic continued effort was made towards the selection of a milk which could be called clean. He had always taught the importance of this, and believed still in the value of pasteurizing for any questionable milk, or even for the best of milk during hot weather. It was important, too, to get milk of fairly uniform strength since without this no uniform results were possible. The belief in the importance of clean milk and of uniform milk had spread very widely throughout the country during the past years.

Dr. Rotch first brought out the necessity of thinking in percentages instead of in quantities. The idea was taken up rapidly by the profession in the United States, and although it apparently did not receive the recognition in Germany and France which it did in America, that the percentage method was actually employed was shown by the fact that the very numerous special milk formulæ, recommended by and often manufactured under the supervision of physicians, were constructed upon the percentage basis.

A few years ago the so-called "caloric method" of infant feeding came into prominence. Dr. Griffith had adopted and taught this with certain very decided restrictions. He believed this method was only serviceable for checking the percentage method. First of all it was not known what a normal child really needed in the way of calories, inasmuch as investigators varied upon this point. This applied with still greater force to children whose digestion had suffered, and whose weight did not correspond to their age and their size. The caloric method was based upon the weight of the child, but investigation had shown that it was not so much the weight but the body-surface which should determine the heat dissipation and the consequent number of calories which the food should contain to replace this. Further, the activity of the child had a great deal to do with the number of heat-units needed; whether it was asleep or awake; whether it was healthily active or abnormally quiet, as so many marantic children were.

Another comparatively recent idea in infant feeding was that it was not so much the bacterial contamination which played a part in the production of imperfect nutrition as chemical changes in the food in the intestines, or, perhaps still more, disturbed metabolic processes. There was undoubtedly a great deal of truth in this; but many found it difficult to believe that bacteria played so small a rôle as was assigned to them in some quarters.

Another observation which in recent years had been making with reason a continually increasing impression upon pædiatrists was the fact that the various elements of the food did not act separately, but in unison. Some elements could be tolerated or not tolerated if certain other elements were withdrawn. For instance, Finkelstein advanced the belief that a child could stand a high casein-percentage provided the whey with the sugar and the salts contained in it was withdrawn; and that fat, too, might be added to the food, provided the whey was withdrawn. So, too, it had been maintained with reason that malt soup, in which the carbohydrate-percentage was very high, rendered the fat-percentage better tolerated, probably through the presence of a large amount of insoluble carbohydrate. In other instances it had been found that protein-decomposition could be checked by the presence of a high carbohydrate-percentage in the food.

For a good many years Dr. Griffith had tried to emphasize the importance of considering the individuality of the child. This seemed a simple matter, yet was frequently disregarded. No rule or method of feeding an infant could be formulated because other infants of the same age could tolerate a certain food.

The last "new" idea in the matter of infant-feeding was the so-called simple dilution method. This was probably based upon Heubner's recommendation, in his caloric method, to use simple dilutions of whole milk of different strengths, to which sugar was added in the proportions desired. Many of those, however, who had supposedly followed this method had abandoned in reality the methods of their teacher. The simple dilution method as recommended by many was supposed to be a way to avoid all calculations of percentages, on the ground that these calculations were difficult and impossible to be carried out by the average physician. It was called an easy method. Dr Griffith wished to call the attention of the members to the fact that Heubner not only first calculated the percentages of the different milk ingredients present in the dilutions employed, but went further and calculated the caloric values of these percentages, in order to see whether the food reached the caloric needs of the child. There was certainly nothing easy about this. Artificial feeding was the hardest problem that pædiatrists had to encounter. As to any difficulty applying to the percentage-method as embodied in the employment of top-milk, no physician of average intelligence surely could find the dilution of, for instance, the upper 24 ozs. of a quart of milk with a certain amount of water any more difficult for himself to recommend, or for the mother to carry out under his directions, than was the dilution of whole milk with the same amount of water. The simple dilution method was all right for those who would take the trouble to really think out the kind and amount of the elements of the food given to the children; but in the hands of those who merely wanted to avoid trouble, its employment was a menace to the patient. It was simply retrograding to where the profession was more than 25 years ago.

June the 13th, 1916.

The President, Dr. John F. Sinclair, *in the Chair*

Electrically-lighted Speculum for use in the Diagnosis and Treatment of Vulvo-vaginitis in Children.—Dr. Philip Atlee Sheaff.—In the Children's Vaginitis Clinic of Dr. John F. Sinclair at the Presbyterian Hospital, we have been using the urethroscope as the best available means at our disposal for visual examination of the vagina.

The restricted view obtainable by this instrument has been far from satisfactory, and as the vagina, even in a small child, is quite capacious beyond the hymen, other means than those in hand became desirable.

The instrument which it is my pleasure to present before you this evening is the outcome of research and criticism recently carried out along these lines, and its use has successfully supplanted the urethroscope in this clinic.

By its aid we are able to demonstrate, at one view, a very much larger area of mucous membrane than formerly observed; the entire external os is readily seen, and sufficient room for topical application or the obtaining of discharges from selected areas is maintained.

It consisted of a bi-valvular speculum, tubular in shape, containing an obturator to facilitate introduction; one blade carrying a light chamber upon its inner or concave surface; both blades maintained in relation to each other by a joint of special construction together with a thumb-screw, which latter also controls the separation and approximation of the blades in such a way that a maximum separation of the distal portion is obtained, with very little separation at the vulva. The instrument may be taken apart by removal of the thumb-screw.

The bi-valvular method of dilatation is an old and well-known principle and needs no description, by the construction of the joint in this instrument places the fulcrum in such position that its proximity to the hymen especially fits it for use in small children by meeting anatomical conditions peculiar to that age.

In the instrument presented, the light chamber is within the tubular portion, and is open at its extreme distal extremity beyond the window, this adding to the illumination when the instrument is drawn in the closed condition toward the operator.

The lamp connection in the urethroscope is centred by means of a dowel pin—in the instrument demonstrated the lamp connection is maintained in position by a small clip which prevents dropping out or withdrawal unless a quarter turn of the part be made.

Establishment of a Department of Preventive Medicine in a Hospital for Children.—Dr. Charles V. Dorwarth.—It is the duty of a hospital treating infants and children to take care of them not only when ill but also to formulate and put into effect measures which will prevent them from becoming ill. To meet these requirements a Department of

Preventive Medicine should be created with a physician at its head to direct the work.

Some of the important functions of such a department are to establish:

(1) *Health clinic.*—A health clinic is a consultation where mothers may bring well children for examination and receive advice which will enable them to keep them well. Children discharged as cured from the ward or dispensary will be referred to the health clinic. Mothers should be urged to bring all their children for examination and advice.

(2) Prenatal clinic and out-patient maternity service, should be in charge of an obstetrician. Here normal pregnant women receive instruction in personal hygiene. At the first visit a history is taken and a complete physical examination is made. The patient is requested to report at regular intervals, when blood-pressure will be taken and a specimen of urine examined. Women attending the prenatal clinic may be delivered in their homes by the physician acting as resident to the Department of Preventive Medicine.

(3) *Social service work.*—The social service work will be in close relationship with all the various functions of the department. The follow-up nurses will visit the homes of the patients in the health clinic and explain the physicians' orders to the mothers. In the prenatal clinic they will demonstrate the preparation of various articles to be used during confinement. Data obtained by the nurse on her visit to the home will be of assistance to the physicians while the patient is being treated in the ward. Provision for convalescent care and summer outing is a duty of this division.

(4) *Division of physical development.*—In charge of a teacher of physical education, a gymnasium to be conducted for subnormal children so that they may acquire firmer muscular development.

Other functions of the department are:

(1) Neighbourhood educational work. Lectures on infant hygiene for parents. Prenatal classes. Instruction in infant hygiene for little girls. Lectures on sanitation and proper housing and demonstrations of unsanitary conditions for boys.

(2) To locate and register wet nurses in the vicinity of the hospital.

(3) To report unlicensed baby farms.

(4) To change environment of children living in immoral surroundings or those living with parents who are mentally deficient.

(5) To co-operate with day nurseries in the district.

(6) To co-operate with city physicians assigned to this district and physicians in the vicinity of the hospital. In order to make the work more effective limit it to the district in the immediate vicinity of the hospital. Many hospitals are doing more or less the work outlined above, but it is suggested that it could be done with greater efficiency if it be correlated to a district department under the headship of a physician qualified to direct work in preventive medicine.

The Health District in Relation to Infant Mortality.—Dr. McC. Hamill.—The population of our large cities is made up of groups of people representing many nationalities and varying greatly in intelligence. The problems of the different sections of our cities differ, therefore, in their nature and solution. If effective work in the prevention of disease is to be accomplished, the health conditions which these varying groups create must be known and properly interpreted. Health departments as at present constituted and equipped are not able to study the fields in which they work.

The existing system is also unfavourable to a proper co-operation and co-ordination of the work of the several divisions of the health department and the other departments of the city government that have to do, either directly or indirectly, with the maintenance of the health of the city. It also makes the education of the masses extremely difficult.

The question that naturally arises is—What is the solution of these difficulties? The Child Federation of Philadelphia has been conducting an experiment as a contribution to a satisfactory answer to this question. The experiment referred to is the Federation's Health Centre, and in order that you may understand the application of this answer, I will define briefly the idea and work of the Centre.

The distinctive feature of the method that the Child Federation has pursued in trying to illustrate the value of district direction of the health of a city has been its intensive character. The procedure was as follows: Fifteen city blocks covering the most thickly populated portion of the Italian district were selected for the experiment. This district was chosen for five reasons: (1) It had a high infant mortality; (2) it contained the most ignorant and most recently arrived of the Italian settlers; (3) it was thickly populated; (4) it included some of the most insanitary streets of the city; and (5) it presented special problems on account of the superstition of the people and their lack of knowledge of the language of the country.

To get the best understanding of the problem and determine the most effective method of procedure, it was decided to limit the field work in the beginning to one city block, the most thickly populated and insanitary in the district. The first act of the workers was the taking of a census of the block, classifying its inhabitants. As we were primarily interested in the infants, the mothers were asked to take their infants to the Centre building for medical examination and guidance, and all expectant mothers were referred for the same purpose. As the confidence of the family was obtained, the insanitary conditions of the home were pointed out, their possible effect upon the health of the family made clear, and the methods of correcting them explained. In practically every household where infants were found it was necessary to correct the mother's lax methods in the care and feeding of her baby.

Whilst this field work was going on, the Centre building became an extremely active institution. The Centre and its purposes became so well known to the community that we were constantly appealed to for assistance in all sorts of emergencies.

Whilst we felt that our work was eminently successful, we realised that we only touched the surface. We have very broad plans for the future, which we hope to carry out in conjunction with the Health Department, which has joined with us in establishing the first health district in the City of Philadelphia.

One of the most important and helpful procedures during the control of the Child Federation was the close co-operation with the city departments.

The best measure of the success of work of this character is probably the death-rate amongst infants. The statistics covering divisions as small as those we were working in, have been so unsatisfactorily recorded in Philadelphia, that it has been impossible for us to make an effective comparison of the mortality before and after the Health Centre work began. We do know, however, that we have had an extraordinarily low death rate.

But we did not measure our results by this method alone. From the fact that we taught the mothers in all of the blocks in which we conducted our intensive work, their lessons well enough to stimulate them to bring their infants to us constantly that we might help them keep them well; and the fact that we taught dozens of families to feel the necessity of better living quarters than they could secure in the districts in which they had lived; and the fact that the care given the children by their mothers and the conditions of cleanliness of the homes and alleys improved so tremendously—we know that the work was effective. But the total results of work of this character can never be expressed fully in any report: indeed, they are appreciated only by those who have known the people and their homes both before and after the work has been done.

It would seem to matter little if the establishment of a district health department necessitated an increase in the appropriation for health work, if it can be shown that the health district is a more efficient method of preventing and controlling disease.

Abstracts from Current Literature.

Acute Infectious Diseases.

The possible rôle of books in the dissemination of the contagious diseases ('*Bull. Johns Hopkins Hospital,*' 1916, XXVII, *p.* 183).—**C. A. Laubach,** as the result of numerous experiments, came to the following conclusions: (1) Pathogenic bacteria can seldom be isolated from books which have been handled by sick patients, and there is, therefore, no empirical reason for maintaining that books serve as vehicles of infection. (2) Direct sunlight and diffuse daylight are the most efficient germicides for organisms found on books, as they are for the same organisms under other conditions. (3) The fact that pathogenic bacteria, like the typhoid bacillus and diphtheria bacillus, can be recovered from artificially infected books under various circumstances after long periods of time, and the fact that the diphtheria bacillus does not lose in virulence during this period, are a sufficient reason for insisting upon the thorough disinfection of books which have been handled by patients. J. D. ROLLESTON.

Diphtheria in the first year of life ('*Amer. Journ. Dis. Child.,*' 1916, XII, *p.* 47).—**J. D. Rolleston.**—Diphtheria in the first year of life is comparatively rare. Only twenty patients of this age were found among a total of 2600 patients of all ages. Of these, thirteen occurred during the second half, nearly twice as many as during the first six months of the year. Congenital syphilis is an important predisposing cause. Three patients showed unmistakeable signs of the disease, and if the Wassermann test had been performed latent syphilis would have been revealed in several more. Sixty-five per cent. showed some nasal involvement with or without other diphtheritic lesions elsewhere, as compared with 25·6 per cent. in the total. Thirty per cent. were purely nasal as compared with 1·5 per cent. of the total cases. Cutaneous diphtheria was also unusually frequent, viz. 15 per cent. as compared with 1·1 per cent. in the total. The mortality was high, 45 per cent., as compared with 7·3 per cent. in the total. Broncho-pneumonia caused five deaths, cardiac paralysis two deaths, and congenital syphilis two deaths. Paralysis was rare (two cases), broncho-pneumonia (six cases) was common. A history of infection was obtained in only three cases. J. D. Rolleston.

Prolonged use of tubes following diphtheria (*'Arch. of Ped.,'* 1916, xxxiii, *p.* 161).—**A. J. Bell.**—A child, aged 1 year, was admitted to hospital for laryngeal diphtheria with a history of having been ill two weeks. After attempted intubation a low tracheotomy was performed. In spite of frequent attempts the tube could not be permanently removed till the thirty-first day. Treatment consisted chiefly in training the larynx by closing the opening of the tube and applying sudden pressure to the chest wall, with the result that the child uttered a distinct cry and coughed several times. This was repeated every few minutes for half-an-hour every day for several days. The stenosis was probably due in the first place to an acute œdema and subsequently to a psychic condition.

J. D. Rolleston.

The Schick toxin reaction for immunity in diphtheria (*'Amer. Journ. Dis. Child.,'* 1915, ix, *p.* 189).—**J. A. Kolmer** and **E. L. Moshage,** as the result of 1265 inoculations, came to the following conclusions: (1) The toxin skin reaction is a valuable and reliable method for detecting susceptibility to dipththeria. (2) Persons reacting negatively to this test usually contain at least $\frac{1}{20}$ units of diphtheria antitoxin per c.c. of serum, and this amount of antitoxin is probably sufficient to protect against infection. (3) Persons reacting weakly or strongly positive usually contain less than $\frac{1}{40}$ of a unit of antitoxin per c.c. of serum or none at all. These persons may be regarded as susceptible to diphtheria, and in the event of exposure to infection should be passively immunised with an injection of antitoxin. (4) About 40 to 50 per cent. of children ranging from 1 to 15 years of age react positively to the toxin test; this means that the preliminary use of the toxin test will eliminate the necessity of administering prophylactic doses of antitoxin to about 50 per cent. of children. (5) The toxin reaction indicates that the immunity conferred by an injection of antitoxin begins to disappear after ten days, and has generally passed away entirely after four weeks. (6) The increased susceptibility of persons with scarlet fever to diphtheria is shown by the toxin reaction; even after the injection of antitoxin about 10 per cent. are susceptible within ten days. (7) According to the toxin reaction the immunity conferred by an attack of diphtheria is usually of short duration or entirely absent. (8) The most practical application of the toxin reaction consists in applying the test as a preliminary measure to all persons who have been exposed to diphtheria and immunising only those who react positively. J. D. Rolleston.

The Schick reaction and its applications (*'New York State Journ. Med.,'* 1916, xv, *p.* 118).—**A. Zingher** reviews some of the more important applications of the Schick reaction and emphasises the following points: (1) The absolute reliability of the test in showing the presence or absence of antitoxic immunity to diphtheria, a negative reaction indicating that the individual is protected, probably indefinitely, against the disease. (2) In determining the efficiency of the active immunisation of susceptible individuals, who have been injected with a mixture of diphtheria toxin and antitoxin. For this purpose only positive Schick cases should be chosen, and after the injections they should be tested at intervals of one, three, six and twelve months to determine whether a sufficient amount of antitoxin has developed to inhibit the Schick reaction, showing thereby the production of an active immunity to diphtheria. (3) To clear up the diagnosis of clinically doubtful cases of diphtheria; with a purulent or sanious nasal discharge showing the Klebs-Loëffler bacillus it is difficult to decide whether the case is a carrier or a beginning diphtheria. A negative reaction excludes diphtheria, while a positive Schick reaction leaves the diagnosis of diphtheria still a probability. A case of tonsillitis due to the streptococcus in a carrier of diphtheria bacilli would, by the use of the culture alone, be thought to have diphtheria and in danger of extension of the disease. A negative Schick reaction would indicate the case to be simply a carrier, and in no danger from the effects of the diphtheria poison. (4) The Schick reaction has added further experimental proof to the clinical experience that very toxic cases of diphtheria require the early intravenous administration of large doses of antitoxin. (5) The results obtained with the Schick test in families seem to indicate that besides infection with virulent diphtheria bacilli, other factors, possibly hereditary in nature, are concerned in the production of natural immunity to diphtheria. (6) After an attack of diphtheria, the Schick test may be used to determine whether the individual has become immune to a second attack of the disease. (7) The use of the Schick test in carriers of diphtheria bacilli will be of service in showing the necessity of using antitoxin to protect those who react positively and who are to be operated upon for nose and throat conditions. (8) During an epidemic of diphtheria in an institution we may use the Schick test to advantage in controlling the spread of the disease. (9) In contagious disease hospitals the Schick test has a distinct value as a routine procedure at the time of admission in cases of scarlet fever and measles. (10) In many general hospitals the custom of giving every child on admission a passively immunising dose of antitoxin might be replaced with advantage by using the Schick test and only injecting the positively reacting patients. (11) In private practice, the use of the Schick test will save from immunising a large proportion of the adult members and many of the children in the family. In conclusion, the author expresses the hope that the ability to separate clinically those who are susceptible to diphtheria from those who are immune will arouse an interest in the more wide-spread use of an active immunisation to diphtheria (toxin-antitoxin) which will enable us to control and possibly finally eradicate the disease, some forms of which still have a mortality of from 30 to 40 per cent. J. ALLAN.

Frther observations on the Schick test for diphtheria immunity (*'Journ. Amer. Med. Assoc.,'* 1916, LXVI, *p.* 1448).—**G. H. Weaver** and **B. Rappaport** announce that a slight modification in the technique of making the intracutaneous injection has been devised by Dr. Rappaport. The skin on the outer side of the arm is rendered tense by clasping the arm from behind. The needle is first thrust into the skin at right angles to the surface to a depth of about $\frac{1}{8}$ in. The direction of the needle is then changed so that if it were carried forward it would emerge about $\frac{1}{2}$ in. from the point of entrance. The needle is then carried forward in this direction until the point is plainly visible within the epidermis. The injection is then made and the needle withdrawn. The advantages of this method over the old one are that it is less painful, requires less time and the danger of any escape of fluid from the puncture is obviated. The toxin has always been so diluted that $\frac{1}{50}$ minimum lethal dose was contained in 0·1 c.c. The test injection has been made on the outer side of the right arm, and at a corresponding point on the left arm was made a control injection consisting of the same amount of toxin plus several hundred times the amount of antitoxin required to neutralize the toxin. The mixture was so made that the amount injected was here also 0 1 c c. The actual quantity of serum injected was from $\frac{1}{2000}$ to $\frac{1}{3000}$ c.c. of an antitoxin globulin solution. Several things of interest have been observed in connection with the control of toxin-antitoxin injections. Since the toxin is here neutralised, an entire absence of reaction is usually associated with a positive reaction in the test arm. A pseudoreaction is usually associated with a similar one in the control. A pseudoreaction in both arms sometimes subsides in two or three days, leaving a typical reaction in the test arm which runs a typical course. The control injections sometimes cause reactions which have no counterpart in the test arm, and are due to the serum injected. In persons who are hypersensitive to horse serum, a local reaction develops at the seat of injection. This usually appears within twenty-four hours, and consists of a bright redness, swelling and slight pain on manipulation. The area involved may be only a few centimetres in diameter or may extend half-way about the arm. These reactions were especially noted in persons who had received antitoxin some time before. T. R. Whipham.

The pseudo-reaction in the Schick test and its control ('*Journ Amer. Med. Assoc.*,' 1916, LXVI, *p.* 1617).—**A. Zingher** states that the pseudoreaction in the Schick test is caused, not by the soluble diphtheria toxin, but by the protein substance of the diphtheria bacillus which is present in the solution used for the test. The reaction may be obtained in individuals who have enough natural antitoxin to render them immune to diphtheria. It is important, therefore, to control these pseudoreactions, which are quite frequent in the adult, especially women (from 20 to 30 per cent.), but relatively rare in children. These control tests may be made after the reaction with the regular Schick test has developed, or, especially in the adult, the two tests may be made simultaneously, one on each forearm, and the clinical course of the reactions thus compared. For controlling the positive pseudo- and combined reactions, toxin which has been heated to 75° C. for five minutes is employed. By this means the soluble diphtheria toxin is destroyed, but the protein of the diphtheria bacillus is not appreciably affected. In an individual who gave a *positive* reaction only, the control test with the heated toxin will be negative. In one who gave a *pseudoreaction*, the control reaction will be of about the same size and appearance, and pass through the same clinical course as the original reaction; *e. g.*, the two reactions showing a similar central area of redness of varying size, surrounded by a secondary areola which shades off into the surrounding skin. Both reactions begin to appear in about six to eighteen hours, reach their height in twenty-four to thirty-six hours, and disappear in three to four days, leaving a poorly defined area of pigmentation and generally no scaling.

In an individual who gave a *combined* reaction in the original test, both the positive and the pseudoreaction may be detected. The positive reaction becomes manifest in the original test at the end of three to four days, when the pseudo-element of the reaction has disappeared, as a definite circumscribed area of redness, which measures from 1 to 2·5 cm. in diameter and shows superficial scaling with beginning brownish pigmentation. The pseudoreaction is detected in the control test with the heated toxin; the reaction will not be as marked as in the original Schick test, but passes through the typical clinical course of a false reaction. T. R. WHIPHAM.

Active immunisation with diphtheria toxin-antitoxin ('*Journ. Amer. Med. Assoc.,*' 1915, LXV, *p.* 2216).—**W. H. Park** and **A. Zingher,** as the result of further investigations, have come to the conclusion that individuals who, before treatment, give a negative Schick reaction are immune probably for life and, therefore, it is not necessary to inject them, when exposed, either with antitoxin or toxin-antitoxin. Those who give a positive Schick reaction and are exposed to diphtheria and in immediate danger should receive either antitoxin alone or, if a longer protection is desired, both antitoxin and toxin-antitoxin. For the general prophylaxis against diphtheria in schools and communities, excluding immediate contacts, a mixture of toxin-antitoxin alone (from 85 to 90 per cent. of the L + dose of toxin to each unit of antitoxin) or toxin-antitoxin plus vaccine of killed diphtheria bacilli is recommended, The dose is 1 c.c. of toxin-antitoxin and 1,000,000,000 bacteria injected subcutaneously and repeated three times at intervals of six or seven days. Sufficient time has not as yet elapsed to judge the value of adding the injections of the bacilli to the toxin-antitoxin. The early and the late results of active immunisation should be determined with the Schick test. Early results are those obtained by the application of the test within four weeks, and late results from four months to two years after the immunising injections.

T. R. WHIPHAM.

Diphtheria carriers ('*Journ. Amer. Med. Assoc.*, 1916, LXVI, *p.* 645).—**F. L. Kelly** and **Violet M. Bathgate** emphasize the necessity for taking cultures from the nose in the detection of diphtheria carriers. They found that in a school where there was an outbreak of the disease only 28 per cent. of all positive outbreaks were from the throat. Consequently 72 per cent. would have escaped detection if cultures from the nose had not been taken. They further lay stress on the value of the Schick test in distinguishing contacts from carriers. T. R. WHIPHAM.

Studies on diphtheria ('*Journ. Amer. Med. Assoc.,*' 1916, LXVI, *p.* 941). —**H. O. Ruh, M. J. Miller,** and **R. G. Perkins** find that tonsillectomy is a more rapid and more effective method for treating diphtheria carriers than either biological products or chemical substances. T. R. WHIPHAM.

Removal of tonsils and adenoids in diphtheria carriers ('*Journ. Amer. Med. Assoc.,*' 1916, LXVI, *p.* 810).—**S. A. Friedberg** advocates the removal of tonsils and adenoids from diphtheria carriers, as the bacilli promptly disappear after the operation. In recent cases it is advisable to wait two or three weeks after the recovery of the patient. In none of the cases treated did the operation have any different general effects than it has ordinarily. T. R. WHIPHAM.

Treatment of diphtheria carriers with iodized phenol ('*Journ. Amer. Med. Assoc.*,' 1916, LXVI, *p.* 800).—**W. O. Ott** and **K. A. Roy** advocate the local application of iodized phenol (phenol 60 per cent., iodine 20 per cent., and glycerine 20 per cent.) in cases of diphtheria carriers. In an infectious children's ward 17 cases were treated. Negative cultures were obtained after one application of iodized phenol in 6 cases (35 per cent.); after the second application in 5 cases (29 per cent.); after the third application in 2 cases (12 per cent.); after the fifth application in 1 case (6 per cent.), and after the sixth application in 2 cases (12 per cent.). One case (nasal) was under treatment for 21 days and required nine applications before negative cultures were obtained. With the exception of this case none of the other 16 were under treatment longer than 11 days. Fifteen of the cases were followed after leaving the hospital, and negative cultures obtained in all. No treatment had been used since the discharge of the patients from the hospital, and all of them had been out from 1 to 3 weeks when the cultures were made. No bad results have been noticed from the use of this rather strong preparation in the nose and throat. The application is painful for half a minute or less until the anæsthetic action of the phenol takes effect. There is a thin escharotic membrane formed at the site of application, which remains for about 24 hours. T. R. WHIPHAM.

The use of Kaolin to remove diphtheria bacilli from the nose and throat (*Journ. Amer. Med. Assoc.*, 1916, LXVI, *p.* 943).—**B. Rappaport** gives further evidence of the use of kaolin in removing diphtheria bacilli from the nose and throat. When properly applied, kaolin by its adsorptive power mechanically removes bacteria with which it comes in contact, and its application to the nose and throat helps to remove diphtheria bacilli and to shorten the period of quarantine after diphtheria. This action of kaolin is interfered with by various local pathological conditions, such as a septic or scarlatinal nasal discharge. Removal of tonsils and adenoids is indicated when diphtheria bacilli persist unduly in spite of kaolin (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1915, XII, p. 349).

T. R. WHIPHAM.

The etiology of scarlet fever ('*Journ. Med. Research*, 1916, XXXIV, *p.* 127).—**F. B. Mallory** and **E. M. Medlar** found on microscopical examination of the tissues of a child who died of scarlet fever on the day after the appearance of the eruption large and small masses of Gram-positive bacilli in some of the crypts of the tonsils. The bacilli lay in the upper part of the fibrino-purulent exudation covering the walls of the crypts. They were also present in practically pure culture in slight depressions and erosions in the epithelium of the tonsils, pillars of the fauces, soft palate, uvula, and root of tongue. They grew between and killed the epithelial cells, causing an exudation of polymorphonuclears. They were also found in the exudation of the trachea and in the broncho-pneumonic lung, in which they completely filled the alveoli and bronchioles. Fibrin formation was usually absent or slight. The bacilli stained well with ordinary dyes, had no polar bodies, were slightly smaller than diphtheria bacilli, and varied from coccus-like to large bacillary forms. The bacilli were facultative anærobes. They grew best anærobically on glycerin (3 per cent.)—dextrose (·5 per cent.)—agar. They died out quickly in the lesions, so that after the second or third day following the eruption it was difficult or impossible to demonstrate them.

J. D. ROLLESTON.

Phlebitis in scarlet fever ('*Bull. et Mém. Soc. Méd. Hôp. de Paris,*' 1915, xxxix, *p.* 807).—**Nobécourt, J. des Camiers** and **Tournier**.—Phlebitis of the limbs is rare in scarlet fever. Among 262 scarlet fever cases in soldiers only two examples occurred. Both patients were aged 19 years. Neither had varicose veins nor showed any local predisposition for the localisation of the infection on their venous system. The complication appeared late, on the thirty-seventh and forty-fifth days especially. In the first case it was preceded, accompanied, and followed by articular rheumatism, endocarditis, and pericarditis, while in the second it was an isolated phenomenon. In the first case the left internal saphenous was affected, and in the second the veins of both sides. The symptoms were those of phlegmasia alba dolens. In both cases the course was rapid and recovery complete. Like endocarditis and pericarditis, phlebitis shows the tendency of the scarlatinal virus to be localised in the circulatory system.

J. D. Rolleston.

Some important factors affecting the incidence of measles and the fatality therefrom ('*Arch. of Ped.,*' 1916, xxxiii, *p.* 261).—**J. G. Wilson** writes from personal observation of 2191 measles cases of both sexes and practically all ages admitted to the Contagious Diseases Hospital at Ellis Island for June, 1911, to July, 1914. The total case mortality was 9·5 per cent. His conclusions are as follows: (1) Cross infection, especially that of diphtheria is the most serious event. Twenty of the 36 cases which contracted diphtheria died—a mortality of 66·6 per cent.; 13 of the 28 cases which contracted scarlet fever died—a mortality of 46·4 per cent., and there were 39 deaths among the cases which developed other contagious diseases —a mortality of 37·8 per cent. (2) Suppurative otitis media although the most frequent complication of measles—it occurred in 18 per cent. of these cases—is not of grave prognostic import when properly treated. (3) Broncho-pneumonia complicates about 10 per cent. of the cases, its frequency and fatality being but little influenced by the weather. (4) The fatality of measles complicated by broncho-pneumonia is 58 per cent,, but varies in an exceedingly erratic manner and without marked relation to the total case mortality of measles. The incidence rate of broncho-pneumonia as a complication rather than its case mortality appears to be an index to the severity of any particular outbreak of measles. J. D. Rolleston.

Concealed measles ('*New York Med. Journ.,*' 1916. ciii, *p.* 986).—**R. Opdyke**.—This was the case of a girl, aged 7 years. In the winter of 1914 she had a severe attack of pertussis, followed by influenza. As the latter subsided, ear pain on both sides appeared, relieved for a time by prompt incision in the membranes. The left ear recovered, but the right progressed to acute mastoiditis, necessitating operation. She progressed fairly well, but her throat inflamed, and temperature ranged from 103·5° to 105° F. Cultures negative. Symptoms of incipient meningitis appeared, but lumbar punctures were negative. Eight days after the mastoid operation measles rash came out, and, on its disappearance, meningitic symptoms manifested themselves. She died comatose, " black with a typical advanced form of measles." Autopsy was not permitted. Macleod Yearsley.

Acute hemiglossitis in measles ('*Bull. et Mém. Soc. Méd. Hôp. de Paris,*' 1916, xl, *p.* 709).—**P. Sainton**.—A soldier on the third day of a mild attack of measles complained of difficulty in mastication, which was attributed to a submaxillary and supra-hyoid adenitis. The following day his temperature rose to 100·2° F., and there was violent pain in the tongue, which could be protruded only with difficulty and felt numb. On palpation a firm non-fluctuating tumour was found on the right half 1 cm. from the tip. The tumour gradually increased, the general state became worse, and the temperature rose to 104° F. When abscess formation seemed probable, the tumour began to subside, and by the eighth day had completely disappeared. Sainton attributes the condition to infection of Blandin Nühn's gland, which is situated close to the tip of the tongue. The infection probably takes place by the excretory duct, and is an extension of the bucco-pharyngeal infection which is the rule in measles.

J. D. Rolleston.

Hæmorrhagic varicella (‘*Brazil-medico,*’ 1916, xxx, *p.* 173).—**F. de Lemos.**—A female infant, aged 4 months, developed varicella a few days after four other children in the same house who had an ordinary attack. When the eruption was well developed blood escaped from the vesicles, hæmorrhages appeared in the gums and on the ears, a large hæmatoma appeared on the head, and ecchymoses on the legs followed by epistaxis and hæmatemesis. Death occurred in three days. The hæmorrhagic form was possibly due to the fact that the child had previously suffered from infantile scurvy.

J. D. Rolleston.

Prophylactic vaccination for varicella (‘*Arch. of Ped.,*’ 1915, xxxii, *p.* 651).—**S. Rabinoff.**—Among 142 susceptible children, 114 or about 75 per cent. developed varicella. On 76 vaccination was performed with fluid from fresh varicella vesicles. Only 6 of non-vaccinated developed varicella, and all within the incubation period of the disease, *i. e.* 16 days. None of the vaccinated cases showed any systemic disturbance. In some the local reaction was very slight or *nil,* while in others in whom several scarifications were made, a red areola appeared about the tenth day, and went through the regular sequence of papule, vesicle, granule, and crust.

J. D. Rolleston.

Prophylactic vaccination against varicella (‘*La Pediatria,*’ 1916, xxiv, *p.* 328).—**G. Rutelli** during an epidemic inoculated fifteen healthy children free from syphilis or tubercle with the lymph from the vesicles. After 24 or 48 hours up to 5 days there was a strong local reaction having the following characteristics: A nodule more or less extensive in area, deep red, hard with smooth surface, occasionally the formation of a vesicle. For the first few days the redness increased in intensity, but by degrees the infiltration and redness ceased; when a vesicle formed a scab resulted. In one case only, after about twenty days a small abscess formed. None of these cases contracted varicella.

Vincent Dickinson.

Acute myelitis following varicella (‘*Amer. Journ. Dis. Child.,*’ 1915, ix, *p.* 445).—**D. C. Wharton Smith.**—A boy, aged 7 years, 2 weeks after an ordinary attack of varicella developed loss of power and sensation in both legs, and a few days later retention of urine, followed by incontinence both of urine and fæces, which lasted 6 or 7 weeks. The spinal fluid was normal and Wassermann's reaction was negative in the spinal fluid and blood. The fundi were normal. Gradual improvement took place, but 14 months after the onset there was still some spasticity in the lower limbs, and Babinski's sign was positive on both sides.

J. D. Rolleston.

A study of the fatality of chicken-pox, mumps, and German measles (*'New York State Journ. Med.,'* 1916, xvi, *p.* 422).—**L. R. Williams,** from a careful analysis of the causes of death in a series of cases of chicken-pox, mumps, and German measles, reaches these conclusions (1) It seems to be quite conclusive from a study of the reports of the physicians and from a study of the death certificates that chicken-pox itself is rarely a cause of death. In children weakened by constitutional disease, death may ensue as a result of the added burden of chicken-pox. Pyogenic infections may occur from infected vesicles. In a number of cases reported as death from chicken-pox the death was apparently due to some other cause in which chicken-pox was only an intercurrent disease and not the primary cause of death. (2) A careful study of the death certificates and a study of the doctors' statements makes it quite evident that although mumps may be a serious disease it is rarely the cause of death. It would seem that in many instances the diagnosis was questionable, and that although the death certificate was signed mumps, the infection of the parotid gland was in many instances very possibly due to oral infection. This is particularly noticeable in the number of elderly people who are said to have died of mumps. This is borne out by a study of the notes from the doctors' letters. (3) The German measles series was too small to justify any definite conclusions. It would appear that pulmonary complications are fairly frequent, broncho-pneumonia especially being a factor in the fatal issue in several cases. J. Allan.

Typhoid fever in children (*'Boston Med. and Surg. Journ.,'* 1915, clxxiii, *p.* 565).—**K. G. Percy** analyses 308 cases treated at the Boston Children's Hospital since 1913. The ages ranged from infancy to 2 years. The mortality was 2·9 per cent. The conclusions are as follows: Typhoid fever is relatively common in childhood and far more prevalent in infancy than formerly supposed. Its onset is much the same as in the adult, headache, fever and malaise, and abdominal pain being the most frequent initial symptoms. In this series and a large series collected from literature, the spleen was enlarged in 71 per cent., rose spots were seen in 61 per cent., positive Widal tests were obtained relatively early in 88·2 per cent., the white blood count was below 10,000 in 73 per cent., the fever lasted an average of 25 days, relapses occurred in 11·8 per cent., intestinal hæmorrhages in 4·2 per cent., and perforation in 1·2 per cent. *Treatment.*—A high caloric bland diet suited to each individual is most important. Hydrotherapy takes a vital place in the treatment of the febrile and delirious stage. Enemata are essential in a high percentage. J. D. Rolleston.

Typhoid fever in breast-fed children (*'Policlínica,'* 1915, iii, *p.* 916).—**J. A. Jordán** records three cases. (1) Infant, aged 14 months. The symptoms were emaciation, anæmia, profuse green diarrhœa, irregular pyrexia, noma, and great enlargement of the spleen. Malaria was at first suspected, and then kala-azar, but bacteriological examination showed that the disease was typhoid. (2) Infant, aged 9 months. Sudden onset with shivering, followed by sweating and a phase of complete apyrexia. These symptoms returned in a few days, so that malaria was diagnosed. Intermittent pyrexia was then replaced by a fever of an intermittent-remittent type and Widal's reaction was positive. There was no enlargement of the spleen. (3) Infant, aged 12 months. The disease began with abundant green diarrhœa, which continued throughout. The temperature was that of a typical typhoid case, except that the final amphibolic stage was absent. There was no enlargement of the liver or spleen. Widal's reaction and a blood-culture were positive. J. D. Rolleston.

Perforated typhoid ulcer (*'Lancet,'* 1916, II, *p.* 107).—**F. M. Neild** reports a case of perforation following a mild attack of typhoid fever in a boy, aged 10 years. An operation was performed but, on the ninth day after, acute intestinal obstruction developed, necessitating further surgical interference. Recovery followed and was uninterrupted, there being scarcely any rise of temperature after the second operation. J. Allan.

Erysipelas migrans and multiple abscesses in a six months' old infant successfully treated with vaccines (*'Med. Record,'* 1916, LXXXIX, *p.* 734).—**L. Fischer.**—When first seen the child had been ill three days, the temperature was 105° F., and there was erysipelas of the vulva and abdomen. It spread thence to the buttocks, back, thorax, extremities, scalp, and face. Lukewarm colonic flushings and tub baths failed to reduce the temperature. Icthyol and saturated solution of magnesium sulphate were also useless, but streptococcus vaccines, both stock and autogenous, brought down the temperature by lysis. On the fifth day following the first vaccine injection an abscess on the right labium majus was incised. A general furunculosis on the arms, scalp, thighs, back, and face appeared in rapid succession. Breast-feeding was continued throughout the illness and complete recovery took place.

J. D. Rolleston.

Cerebro-spinal meningitis in children (*' Med. Journ. Austral.,'* 1915, II, *p.* 438.—**N. J. Bullen** gives notes of 55 cases which he divides into two groups, aged under 12 months and over 12 months. There were 20 of the former, all showing the characteristics of posterior basic meningitis. The onset was sudden, accompanied by vomiting, drowsiness, and in 5 by convulsions. They soon became semi-comatose with rigidity and retraction of the neck. A few of these were pulmonary cases, and all died, and in 2 a purpuric rash developed. Bulging of the fontanelle always occurred. Convulsions occurring early were of bad omen. Constipation was always present. Second group: 35 cases. The onset was sudden in 28. There were only 2 clinical stages: septicæmic, very short, and meningeal. Three varieties were noted: fulminant, acute, and sub-acute cases. Vomiting at the onset was noted in 20 cases, headache in 10, constipation in 12, convulsions in 5, rigors in 4. Delirium developed in about half, *tache cérébrale* in 19 cases, strabismus occurred in 9, conjunctivitis in 10, irido-cyclitis in 4, corneal ulcer in 1: opisthotonus in 15; herpes in 13, purpura in 16, petechial rash in 6, arthritis in 4: the incubation period lasted from 24 hours to 5 days. The disease is especially fatal under 18 months of age. Lumbar puncture is the best treatment. Vaccines were used in very large doses in most of the cases, and were effective especially in the fulminant and acutely toxic cases. The results were: Group 1.—Five recovered, 9 died, 6 under treatment. Group 2.—Thirteen recovered, 7 died, and 15 were still under treatment. F. R. B. Atkinson.

Epidemic cerebro-spinal meningitis (*'La Pediatria,'* 1916, XXIV, *p.* 449).—**G. di Cristina,** from his experience of the epidemic in Palermo in 1915–16, states that the disease is an infection peculiar to childhood, the exception to the rule being soldiers. In infants the symptomatology differs from the usual clinical picture and is very variable. The onset is insidious, and resembles an attack of influenza lasting several days, with cough, lacrymation, nasal discharge and slight opisthotonus. The classical symptoms then gradually supervene. Two forms may be distinguished, the spasmodic and the painful. The two most serious complications met with were nephritis and hydrocephalus. In protracted cases where the meningococcus was difficult to find or even to cultivate in the cerebro-spinal fluid, the author found help in the Vincent-Bellot reaction, which successfully demonstrated the presence of specific antigen. VINCENT DICKINSON.

Extensive purpuric eruptions in epidemic meningitis ('*Amer. Journ. Dis. Child.*,' 1915, x, *p.* 266.—**E. A. Morgan**.—The early history of the disease shows that eruptions were more frequent than at present, probably because other forms of the disease were not recognised. Morgan reports 2 sporadic cases in children, aged 15 months and 2 years, presenting the following unusual features: (1) The character and distribution of the eruption, which was unlike the usual purpura hæmorrhagica, and which, though differing greatly in degree, was almost identical in both. (2) Paucity of meningeal signs. (3) Demonstration of the meningococcus in the blood, though attempts to grow it from the skin were unsuccessful. (4) Refutation of the old theory that the extent and colour of the eruption were of prognostic aid. In both cases the meningeal symptoms were not unusually marked, and were quite amenable to treatment. J. D. ROLLESTON.

Meningococcus carriers in attendants on meningitis cases ('*La Pediatria*,' 1916, xxiv, *p.* 473).—**M. Sindoni** found that during an epidemic in the clinic the meningococcus was not always demonstrable in the patients by the means hitherto available, and that here its absence was in direct relation to the duration of the disease and the treatment adopted. The mothers of children affected were always carriers and constituted a grave peril for the diffusion of the disease. In the hospital staff carriers were rarely found. In the hospital they are not dangerous, but may communicate the disease to their families. VINCENT DICKINSON.

Cases of epidemic cerebro-spinal meningitis treated with Flexner's antimeningitis serum ('*Amer. Journ. Dis. Child.*,' 1915, IX, *p.* 418).—**W. A. Smith** records 5 cases in children, aged from 8 months to 6 years, the duration of whose illness ranged from 4 hours to 23 days. All recovered without sequelæ. According to the severity of the case from one to eleven lumbar punctures were done, from 20–40 c.c. of fluid removed, and from 15–40 c.c. of serum injected. Marked reactions followed the injections. There were frequently high fever and restlessness, but they were of short duration. J. D. ROLLESTON.

Otology, Rhinology, and Laryngology.

The discharging ear ('*Med. Record*,' 1916, xc, *p.* 588).—**A. Bardes** discusses this well-worn subject. Its chief merit lies in the stress which he lays upon two things: (1) that it is useless to attempt to check a discharging ear by local measures so long as reinfection from the nose is apt to occur, and (2) that the original expectations of the radical mastoid operation have not been realised; in other words, the radical mastoid operation does *not* cure every case. Probably, in children, it is better whenever possible to do a simple opening operation (Schwartze) as more likely to preserve hearing.

MACLEOD YEARSLEY.

Obscure manifestations of otitis media in infancy and childhood (*'Arch. of Ped.,'* 1916, xxxiii *p.* 434).—**J. A. Colliver** points out that he is not an otologist, but wishes to call attention to a neglected and vitally important field. He feels that the burden of responsibility for the number of cases of ear disease in childhood which are neglected, overlooked, or wrongly diagnosed rests upon the general practitioners. He lays stress upon the not infrequently obscure nature of the symptoms of otitis media as well as upon the often unnecessary mastoid operation. He discusses the etiology of ear disease in infancy, with special reference to scarlet fever, measles and influenza. A most important paper that should be read in its entirety.

MACLEOD YEARSLEY.

Suppurative otitis media (*'Canad. Med. Assoc. Journ.,'* 1916, vi, *p.* 516). —**E. H. White** urges two points, both of which are important. (1) At the onset of an acute suppurative otitis insist on strict confinement to bed until it is established that the infection is a mild one, and that the disease is running a favourable course. (2) Put a limit to the time such an ear will be allowed to discharge by a thorough investigation as to the cause of delayed healing and the adoption of active surgical measures in appropriate cases. Remember that *every added week of discharge* makes it more certain that the *hearing will be permanently damaged* and brings nearer the danger of serious deep-seated trouble. Let your motto be the popular cry of the day "safety first."

MACLEOD YEARSLEY.

Infection of the ear with Vincent's micro-organisms—Report of sixteen cases (*'Ann. of Otology,'* 1915, xxiv, *p.* 485).—**J. A. Mulholland.**—The points about this infection are (1) The fact of its occurrence in debilitated children, (2) its apparent contagiousnesss, (3) its amenability to local treatment, and (4) its good prognosis. Of the 16 cases, 13 were confined to the middle ear, 3 had mastoiditis (2 of which were inoperable and died of meningitis; both had complete facial paralysis). General treatment was symptomatic. In the last 4 cases salvarsan was used (in one case syphilis was excluded by the Wassermann examination).

MACLEOD YEARSLEY.

The salt water ear (*'Med. Record,'* 1916, lxxxix, *p.* 912).—**H. B. Blackwell** has noted, during the past ten years, the number of cases of acute infections of the middle ear due to sea bathing, and considers that physicians should warn all patients coming under the following classifications against sea bathing: (1) Those with a history of having had suppuration from one or both ears. (2) Those with discharging ears. (3) The deaf. (4) Individuals who complain of itching in the external auditory canals. In making an aural examination, one should look specifically for the following conditions: (1) Acute, subacute, or chronic middle-ear suppuration. (2) Dry perforation of the tympanic membrane. (3) Partial or complete destruction of the tympanic membrane caused by previous suppuration, resulting in its replacement by connective tissue. (3) Eczema of the canals. In any of these conditions the ears should be plugged before entering the water. Furunculosis often occurs in daily surf bathing, because of the dryness of the skin due to frequent submersions resulting in subsequent infection of the unprotected hair follicles.

MACLEOD YEARSLEY.

Syphilitic diseases of the ear (‘*Edin. Med. Journ.*,’ 1916, XVII, *p.* 5).—**J. S. Fraser.**—This is a most valuable *résumé* of recent literature and should be read carefully by all pædiatrists, as it deals with treatment in congenital syphilitic deafness in children. MACLEOD YEARSLEY.

Spontaneous gangrene secondary to otitis and adenitis (‘*Riv. di Clin. Pediat.*,’ 1916, XIV, *p.* 57).—**A. F. Canelli** reports the case of a girl, aged 21 months, suffering from purulent otitis media and acute secondary parotitis followed by paratonsillar abscess and a severe septic condition with multiple gangrene, roughly symmetrical, involving the skin, and deeper tissues down to the muscles. There was a tubercular family history and a positive Wassermann. The condition was probably due to embolism.

VINCENT DICKINSON.

Mastoiditis complicated by purulent cerebro-spinal meningitis (‘*Journ. Amer. Med. Assoc.*,’ 1916, LXVII, *p.* 201).—**W. H. Huntingdon** reports the case of a girl, aged 8 years, who had sudden pain in the left ear, headache, and fever without any history of previous otorrhœa. The drum, which was slightly red, was incised, but no pus was evacuated. Three days later there were more evident signs of mastoiditis and in addition those of meningitis. A mastoid abscess was opened and lumbar puncture was performed, the cerebro-spinal fluid being cloudy and containing an excess of polymorphonuclear leucocytes. The only organism present was the Friedländer bacillus. The patient made a good recovery.

T. R. WHIPHAM.

The vaccine treatment of suppurative otitis media (‘*Ann. of Otology*,’ 1915, XXIV, *p.* 785).—**G. M. Coates.**—The author's deductions are admittedly optimistic—“a certain allowance,” he says, must be made “for the rose-coloured spectacles” he “may be presumed to be looking through.” His cases are considered under two headings: *Acute* and *Chronic*. He warns the reader not to give vaccines too much credit in the former, since many cases get well without them. But he prefers to use them than to follow Heath's advice. In the chronic cases, vaccines are most valuable as an adjunct to the mastoid operation. In 46 cases, 39 dry ears were obtained by the use of commercial mixed vaccines, with an average of 5 doses.

MACLEOD YEARSLEY.

A Clinical study of sixty cases of post-nasal infections in private practice, with reports of six cases, complicated by acute hæmorrhagic nephritis (‘*Arch of Ped.*,’ 1916, XXXIII, *p.* 729).—**G. E. Baxter.**—An interesting and instructive paper which may be summarised thus: (1) Post-nasal infections in infancy and childhood were unusually common in the winter and spring of 1915. (2) The cases studied bacteriologically did not show the prevalence of streptococcus, but usually a pure culture of staphylococcus. (3) There was a predilection for the infection to localise in the post-nasal space, and in more than 75 per cent. of the cases to involve the middle ear. (4) The evident importance of the post-nasal space as the atrium for general infection. (5) The susceptibility of the kidneys to the toxins of the infection, in older children this occurred in 33 per cent. of the cases after the third year. (6) It is important not to be hasty in doing a paracentesis in all cases of involvement of the middle ear, especially in infants under 2 years. (7) The use of a nasal douche with gravity pressure is to be recommended in the treatment of post-nasal infections in a majority of cases. MACLEOD YEARSLEY.

The indictment of the tonsil ('*Ann. of Otology*,' 1915, XXIV, *p.* 747).—**C. Gile.**—An interesting paper showing how the tonsil may be the *fons et origo* of acute nephritis, rheumatism, arthritis, goitre, tuberculosis, deafness, and various neuroses such as: œsophageal spasm, recurrent cough, spasm of the glottis, lingual neuralgia, and blepharospasm. That chorea and epidemic cerebro-spinal meningitis may also be traced to a tonsillar focus of infection is not mentioned but, as the author remarks, the charges in the indictment might be multiplied. MACLEOD YEARSLEY.

The conservative treatment of the tonsils ('*New York Med. Journ.*,' 1916, CIII, *p.* 483).—**G. Hudson-Makuen** again approaches this much-discussed subject, but his paper is well worth reading because it contains one or two maxims deserving of note. In the normal state the tonsil is not a menace, but a probable protection, and its presence is helpful in phonation and articulation. It is easier to remove a tonsil than it is to know whether or not it should be removed. Whilst the temptation to remove tonsils in a somewhat wholesale manner is almost irresistible, the practice is none the less reprehensible. "The man who tonsillectomizes a dozen or fifteen patients in a single afternoon had better spend his afternoons in the abattoir." Finally, the tendency of the future will be to find out, not how to operate, but how not to operate, or, at least, how to operate in the most conservative manner. MACLEOD YEARSLEY.

The standard tonsillectomy ('*Ann. of Otology*,' XXIV, *p.* 591).—**J. R. Fletcher** advocates dissection and wire snare. The following points are emphasised: (1) Save all the membrane possible; (2) make incision entirely around the tonsil; (3) employ sharp dissection rather than force; (4) beware of the posterior pillar; (5) remember that the snare is not an innocent instrument that cuts where it should; (6) most important, see all that is done. MACLEOD YEARSLEY.

The dangers and complications of tonsillectomy ('*Med. Record*,' 1916, XC, *p.* 972).—**S. E. Moore.**—These are hæmorrhage, nervous and muscular diseases, sepsis, endocarditis, diphtheria, bronchiectasis, pulmonary embolism, hyperpyrexia, subcutanous emphysema, pneumonia and pleurisy, rheumatism, status lymphaticus, amygdalotomy rash, dryness of the throat, appendicitis, adhesions of the pillars, impairment of the voice, difficult swallowing, otitis media, cervical adenitis, anæsthetic fatalities, leukæmia, enuresis, hyperthyroidism, nephritis, increased colds, epileptiform convulsions, and acidosis. Thousands of unnecessary tonsillectomies are performed yearly. The operation should be done in hospitals and by specialists only. Mere incomplicated tonsillar hypertrophy does not require operation. Practically complete tonsillar involution occurs about puberty. The coagulation time of the blood should be taken in all cases, and no operation should be performed when the clotting time is more than one and a half minutes. Shock can be avoided by using ether. No patient should be operated on with a high temperature, or where the constitutional or local condition is acute, as in arthritis, neuritis, coryza, tonsillitis, habit spasm, or convalescence from influenza. Operation should be avoided in the winter months owing to the great liability to bronchitis. More attention should be paid to oral asepsis both before and after operation. Tincture of iodine and compound tincture of benzoin are useful applications after operations. J. D. Rolleston.

Eye adenoids and their relation to throat adenoids—the author's modification of the adenotonsillectomy operation—(' *Ann. of Otology,*' 1915, xxiv, *p.* 763.—**J. E. Oertel** concludes that (1) eye adenoids (follicular conjunctivitis) indicate the existence of throat adenoids; (2) hasty and rough surgery in the throat is productive of irreparable damage; (3) adenectomy should be performed, as far as possible, under direct observation; (4) the roller forceps for diffuse pharyngeal adenoids is of value because it removes them with a minimum amount of damage to the mucous membrane; (5) the silver clip is the best general method of controlling tonsillar bleeding.

Macleod Yearsley.

Retropharyngeal abscess opening into the left bronchus (' *La med. de los niños*', 1916, xvii, *p.* 152).—**Sarabia** records a fatal case in an infant aged 10 days, in whom the abscess was due to manipulations of the mouth and pharynx at birth to facilitate respiration. J. D. Rolleston.

Evacuation of retropharyngeal and tonsillar abscesses without a bistouri (' *Arch. de Méd. des Enf.,*' 1916, xix, *p.* 449).—**J. Comby** records 45 cases, 18 of which were retropharyngeal and 27 tonsillar abscesses, successfully treated by the method which he had recommended in 1912 (v. British Journal of Children's Diseases, 1912, ix, *p.* 187), *i. e.* opening them with a blunt instrument such as a grooved director and enlarging the opening with an artery forceps. J. D. Rolleston.

Aneurysm of the carotid simulating retropharyngeal abscess in an infant of 11 months (' *Jahrb. f. Kinderheilk.,*' 1916, lxxxiii, *p.* 493).—**J. Vas.**—Profuse hæmorrhage followed incision of the retropharyngeal swelling, and tracheotomy was performed as a preliminary measure to ligaturing the carotid. Death occurred, however, shortly after tracheotomy, and the necropsy revealed a retropharyngeal aneurysm in the left internal carotid. Vas attributes the condition to an infection of the retropharyngeal lymph tissue round the internal carotid secondary to an angina.

J. D. Rolleston.

Some methods useful in direct laryngoscopy ('*New York State Journ. Med.,*' 1916, xvi, *p.* 16).—**C. J. Imperatori** points out that in children and especially in infants, if the examination is prolonged, there is marked danger of inducing œdema of the larynx, particularly should the operator have any difficulty in the procedure. In children neither atropine nor morphine should be given, but chloral per rectum (10 gr. to a child 4 years of age and graduating the dose for younger children), one hour before the examination, and the child properly swathed and properly held, will invariably meet with success. A general anæsthetic may sometimes be required, but the great majority of cases can be operated under local anæsthesia. In children cocaine is not used and alypin seems to be a safe substitute. In children, the straight position on the table is to be recommended. An assistant or nurse steadying the head, and the child swathed, will be found to aid in the success of the procedure. The upright position may be used, the child being properly swathed and held by an assistant who sits on a low chair or stool.

J. Allan.

A rare complication of diphtheritic tracheal and laryngeal stenosis ('*Deutsch. Med. Woch.*,' 1916, xlii, *p.* 323).—**T. Cohnen.**—A girl, aged 2 years, was admitted to hospital with faucial and laryngeal diphtheria in a state of urgent dyspnœa. Tracheotomy was performed at once under light chloroform anæsthesia. On opening her trachea an attempt to introduce the tube was checked by a soft obstacle, part of which passed through the incision, and proved to be an ascaris lumbricoides 10 cm. long. It was then extracted by forceps, and complete recovery took place.

J. D. Rolleston.

Paper-clip in bronchus for seventeen years ('*Journ. Amer. Med. Assoc.*,' 1916, xlvi, *p.* 397).—**E. Beer** reports the case of a male patient who, when 9 years of age, put a paper-clip into his mouth, which suddenly became lodged near the base of the tongue. His father in attempting to remove it with a teaspoon pushed it still further down the patient's throat, and it was believed that he had swallowed it. The next day he had a paroxysm of coughing, bringing up a large quantity of mucus and blood, and had great difficulty in breathing. He was taken to hospital, but as the symptoms subsided nothing was done. A few days later he had pneumonia, which relapsed. For the next two years he had fairly good health, and then noticed a dull pain in the right side of the chest, which was accompanied by a hacking cough, profuse muco-purulent sputum, and a sense of suffocation. He was treated for some time for tuberculosis and asthma, but the symptoms became worse, although his weight did not decrease. X-ray examination showed a shadow of a flat-headed paper-clip in the right main bronchus, with head down, and marked thickening of the adjacent pulmonary tissue. The clip was removed by superior bronchoscopy and the patient made a good recovery.

T. R. Whipham.

Endoscopy of the œsophagus and upper air-passages in children ('*New York State Journ. Med.*,' 1916, xvi, *p.* 456).—**C. J. Imperatori** thinks that endoscopy of the œsophagus and upper air-passages in children and also in adults should be made use of more than it is, as a means of precise diagnosis. The common notion regarding endoscopy is to intimately associate it with removal of foreign bodies. While this is certainly a brilliant and spectacular procedure, still the use of endoscopy as a means of diagnosis and treatment, other than surgical, makes it a useful and practical means and is surely an advance in medical progress. The author discusses indications for examination of the œsophagus, indications for examining the larynx and tracheo-bronchial tube, methods of examination of the air-passages, preparation and position of the patient, and other points connected with the technique of endoscopy.

J. Allan.

Review.

OBSTETRICS, NORMAL AND OPERATIVE. By GEORGE PEASLEE SHEARS, B.S., M.D., Professor of Obstetrics and Attending Obstetrician at the New York Polyclinic Medical School and Hospital, Philadelphia and London. 419 Illustrations. Pp. 745. 1916. J. B. Lippincott Company. Price 25*s*. net.

THIS work, which is the outcome of extensive experience in the hospital private and consulting practice of obstetrics, is divided into four parts, the first dealing with pregnancy, labour and the puerperium, the second with the pathology of pregnancy and labour, the third with obstetric surgery, and the fourth with the pathology of the puerperium.

The author points out that the practice of obstetrics differs from that of general medicine and surgery and from that of the other specialities, principally in the fact that the obstetrician has two patients under his care at the same time. It is for this reason and on account of the frequency with which it is performed that he regards the use of the forceps as the most important operation in all surgery.

Throughout the work he exacts a high standard from the practitioner and nurses engaged in obstetric work, and repeatedly insists that if a man cannot afford the time necessary to do justice to his patient he should adopt a less arduous calling than that of an obstetrician.

As regards nurses he remarks, doubtless alluding to the Continent and excluding this country: "In Europe, trained nursing, as we know it, simply does not exist" (p. 684).

Dr. Shears is a sworn foe of meddlesome midwifery, as is shown by his limitation of internal examination, his prohibition of hot douches after normal labour, the unnecessary use of the catheter, and of the tight breast bandage. Operative interference, he thinks, has on the whole done more harm than good in puerperal infection.

His discussion of "Twilight Sleep" and his substitute therefore will be read with interest (pp. 157–162).

He is generally in favour of ether as an anæsthetic in preference to chloroform.

Dr. Shears writes in a forcible style which grips our attention. His descriptions are accompanied by a wealth of illustrations, among which we may draw special attention to the excellent photographs of normal labour.

We have noticed a few misprints, *e. g.* uterine cornea (p. 5), endometritis (p. 223), cuoc en retour (p. 283), hæmiplegia (pp. 306 and 732), atalectasis (p. 425), empyæmia (p. 696).

We may also mention that the word "obstetrician" is not derived from the Greek (p. 170), and that icterus gravis does not mean icterus gravidarum (p. 280).

These trivial errors will doubtless be corrected in the next edition.

J. D. R.

THE
BRITISH JOURNAL
OF
CHILDREN'S DISEASES.

Vol. XIV. APRIL—JUNE, 1917. Nos. 160–162.

Original Articles.

LIPODYSTROPHIA PROGRESSIVA.*

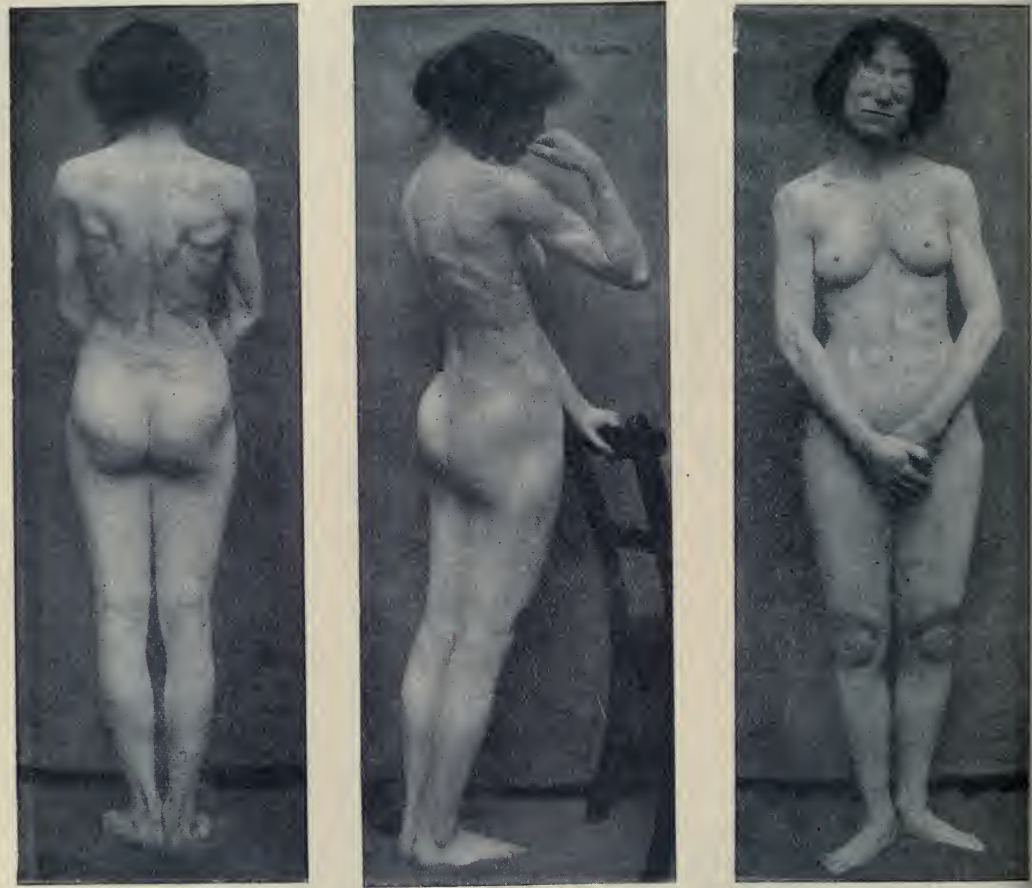
By F. Parkes Weber, M.A., M.D., F.R.C.P.Lond.

Quite recently two genuine cases of lipodystrophia progressiva *in males* have been published. J. Gerstmann's case (33) is that of a soldier, aged 32 years, who, at the age of ten years, commenced to show symmetrical wasting of the subcutaneous fat in the face. Since then the fat-atrophy has gradually spread over the neck, upper extremities, and trunk, as far as the pelvic bones (the inguinal folds and the iliac crests). There is excessive amount of subcutaneous fat in the buttocks and lower extremities. The muscular development in the lean parts is very good. The man presents likewise signs suggestive of thyroidal disturbance, "facial irritability," alimentary glycosuria, and some nervous symptoms, which may, however, not be in any way related to the lipodystrophia. H. Gerhartz's case (34) is that of a man, aged 29 years, whose "lipodystrophia progressiva superior," as Gerhartz prefers to call it, commenced at the age of six years, after an accident on the ice, in which the patient nearly lost his life. In this case, however, there is no excessive accumulation of subcutaneous fat in the buttocks and lower extremities. The patient shows various other abnormalities ("facial irritability," hyperidrosis, alimentary glycosuria, etc.), the connection of which with the fat-atrophy is by no means clear.

---

* This paper was read at the Royal Society of Medicine, Section for the Study of Disease in Children, February the 23rd, 1917.

Lipodystrophia progressiva is a rare disease or morbid condition, which was at first supposed to be confined to the female sex. It is characterised by the progressive disappearance of the subcutaneous fat from the face and upper parts of the body. The term "lipodystrophia progressiva" was introduced by A. Simons (1911), and the appearance in his case, as portrayed in his and E. Holländer's illustrations (1910) may be accepted as altogether typical for the disease (1). Though Simons was undoubtedly the first to use the term "lipodystrophia" (from the Greek words λίπος, δυς-, and τροφή, signifying respectively *fat, badly,* and *nourishment*), a characteristic example of the disease was shown by Harry Campbell in 1907, at



FIGS. 1–3.—To illustrate the typical changes in lipodystrophia progressiva.

the Clinical Society of London, under the heading "Disappearance, more or less complete, of the Subcutaneous Fat above the Region of the Lower Extremities" (2). By the kindness of Dr. Campbell I am able here to reproduce photographs of his patient taken in 1913 see Figs. 1–3).

The fat-atrophy seems first to attract attention in the face, and later on to spread to the trunk and upper extremities. In some cases the disease remains limited to the face and neck, or face, neck, and thorax; in Lewandowsky's case (11), although it had already lasted two years, it had not yet affected the upper extremities. Though the disease is called *progressive* lipodystrophia, it is really not progressive in all senses of the word, for the lower extremities and the buttocks are never involved; in most (nearly all) cases indeed, there seems to be an abnormal accumulation of subcutaneous fat in the thighs and gluteal regions (sometimes in the lower abdomen also), such as occurs in many females, especially at middle-age.* Moreover, when the subcutaneous fat has nearly all disappeared from the affected regions, the disease comes to a standstill. Although at the commencement there may have been associated neurotic or other troubles, when the disease once comes to a standstill, and sometimes during the progress of the disease, the general health appears to be in no wise affected by the lipodystrophia. The patients are ordinarily able to do as much work and stand as much fatigue as the average of normal women of the same age, or they may even excel in energy and strength. A cause of annoyance and trouble may be that employers and others, owing to the wasted appearance of the face, may suspect the presence of a disease of evil repute, such as pulmonary tuberculosis or cancer.

The ætiology of the disease is unknown, but an endocrinic origin has been suspected, that is to say, the peculiar fat-atrophy in question has been supposed to be a result of some disorder of the internal secretions. In women menstruation and the ordinary sexual functions appear to be unaffected. Feer (13) suggests disorder in the function of the thyroid gland. Thyroid treatment and various drugs and other methods of treatment have been tried, but without any satisfactory result.

It is possible that the disease occurs relatively more frequently in women of Hebrew race than in others. In my first case the patient was of Hebrew parentage, and so were Harry Campbell's and Herrman's patients. Several other patients, however, were certainly not Hebrew. If, moreover, the disease is slightly less rare amongst those of Hebrew origin than amongst others, it must, nevertheless, be exceedingly rare. During the whole time (more than twenty years) of my work as physician to the German Hospital in London (the in-patients and out-patients of which are largely Jews from Russia, Russian Poland, Germany, Austria, and the Balkan States) I have not met with a single case at that hospital, nor have I heard that any of my colleagues at the hospital have come across one.

---

* In females the predominance of subcutaneous fat about the thighs and gluteal regions is practically a secondary sex-character. The gluteal prominence is greatly exaggerated in some African races, constituting the racial peculiarity known as "steatopygia," which is illustrated by the pictures of the "Hottentot Venus."

In regard to the age at which the disease commences, and the circumstances (if any) which the patient or her friends suppose to have acted as exciting causes, there seems to be considerable difference in different cases ; but the disease is one of the first half of life, and generally commences in childhood, before puberty, especially at the age of six years or thereabouts.

In a case on which I published a note in 1911 (3), the patient, who was an unmarried woman, aged 27 years, of Hebrew parentage, presented no evidence of any visceral disease. She was said to have been a healthy girl up to the age of sixteen years, when menstruation commenced. Since then she had had various troubles, and had likewise been treated for dyspepsia and insomnia. But it is doubtful whether these troubles had anything to do with the lipodystrophia. She was active and discontented with life in her parents' home, being desirous of obtaining some useful occupation, which would render her more independent.

Since then I have met with another case, in a somewhat older woman, who, apart from the fat-atrophy in question, enjoys apparently perfect health. Mentally she is also normal, but is sometimes annoyed because people think that owing to the emaciated aspect of her face she must have "consumption." She is quite certain that the fat-atrophy commenced after an attack of measles, at 7 years of age, but it has long ago reached its maximum and is now quite non-progressive. I was not able to examine the trunk, but am assured that the atrophy is limited in this case to the face and neck, as in certain male patients referred to further on.

In Harry Campbell's case (2), when he first demonstrated it (1907), the patient was aged 21 years. Dr. Campbell kindly informs me that she is of Hebrew parentage. The fat-atrophy commenced at the age of six years and gradually progressed during the next eight years or so. The face was the first part affected. There was abundant subcutaneous fat in the buttocks and lower extremities. Dr. Campbell tells me that cosmetically she has been greatly improved by paraffin injections into the subcutaneous tissues of the face, for the first time in 1914, and again about one year later (as the paraffin had apparently become gradually absorbed after the first injection).

The patient of Simons and Holländer (5) was aged 21 years when her case was described in 1910. The fat-atrophy was first noticed in the face, when she was eleven years old, and then gradually spread over the trunk and upper extremities. The leanness of the face, however, seems to have been preceded by excessive accumulation of fat in the gluteal region, for an increase in the size of that part of the body had attracted her mother's attention when she was only five years old. The appearance of her face was of special importance to her, as she was a professional dancer, and from the cosmetic point of view Holländer obtained a temporary good result by injecting a sterilised mixture of human fat and mutton suet into the subcutaneous tissue of her face. The good result, however, did not last long, for absorption soon took place. A "biopsy" examination of the affected skin and subcutaneous tissue was made in this case, and (unlike what is found at post-mortem examinations on even the most emaciated subjects of pulmonary tuberculosis) practically complete absence of fat was noted, so that only traces could be demonstrated by careful microscopical examination (6).

In a case which Sir William Osler kindly gave me permission to mention (7), and which doubtless belongs to the same class, the leanness was first noticed when the patient was about five years old, the face and back being the earliest parts to be affected. In 1895, at the age of ten years, when Sir William Osler saw her, the contrast was very great between the extreme thinness of the face, trunk, and upper extremities, and the plumpness of the parts below the hips. Menstruation commenced at twelve years of age. In February, 1913, information was obtained that, though this patient still looked thin and weak, she said that she felt well, and was actually stronger than most ordinary women.

In May, 1915, Dr. John Fawcett (4) kindly showed me a typical case of lipodystrophia progressiva in Guy's Hospital. The patient was a young English woman (not of Hebrew origin), aged about 19 years, with apparently nothing abnormal about her, physically or mentally, excepting the fat-atrophy. The subcutaneous fat of the whole body down to the pelvic bones was involved in the atrophy. The lower extremities showed a plentiful, but apparently not excessive, covering of fat. The disease had been long quiescent, for it commenced at about eight-and-a-half years of age, and took only a year or so to reach its present stage. Menstruation, which commenced at thirteen-and-a-half years, was normal.

E. Feer, of Zurich, has recently described and illustrated two fresh cases of lipodystrophia progressiva (13). The patients were girls, aged 12 and 10 years respectively (1914), in whom the fat atrophy began at about six years of age in the face, spreading gradually to the neck, thorax, and arms. The increase of fat in the thighs and buttocks was more striking in the second case (that of Dr. Boissonnas, of Geneva), in which there was likewise abnormal obesity of the abdominal wall.

The case of " Segmentary Adiposis of the Lower Limbs," published by Laignel-Lavastine and Viard (9), must probably be regarded as belonging to the group we are now considering, though the emaciation of the face and upper part of the body was less decided. Their patient was an unmarried woman, aged 39 years, an embroideress, who complained of great enlargement of the lower extremities. This commenced, according to the patient's account, at the age of twenty-two years, and first involved the legs, then the thighs, and lastly the buttocks. Various methods of treatment had been resorted to (thyroid extract and iodine, milk diet, etc.), but without satisfactory results. The great size of her lower extremities offered a striking contrast to her thin chest and the general slenderness of the upper part of her body. The left thigh was decidedly larger than the right thigh, but both thighs, both buttocks, and both legs shared in the enlargement. The mammæ were very small. The thyroid gland was slightly enlarged. The menstrual periods, which had commenced at fourteen years of age, lasted only two days each time. At the Salpêtrière the patient had been given thyroid and ovarian extracts, but as yet without any effect on the size of the lower extremities.

I have been kindly allowed to refer to a case which may perhaps be regarded as an " incomplete form " of lipodystrophia progressiva, somewhat like the above-described one of Laignel-Lavastine and Viard. The case was shown by Edmund Cautley (29), at the meeting of the Harveian Society of London on February the 3rd, 1916, and in the discussion Leonard Guthrie suggested that it might be one of lipodystrophia progressiva. The patient was a woman, aged 24 years, whose lower extremities (excluding the feet) were remarkable for their excess of subcutaneous fat; so also was the lower part of the abdomen. The upper part of the body and face appeared thin (at all events, by contrast). The increase in the size of the legs commenced at the age of six years (in 1898), after an attack of diphtheria. The patient complained of numbness in the outer parts of the legs (chiefly the left one) and breathlessness on excitement and exertion, but these troubles may have been quite independent of the abnormality in the subcutaneous fat.

I cannot here give an account of all the published cases of lipodystrophia progressiva, but must refer to my recent article on the subject in the 'Quarterly Journal of Medicine' (35), from which I have borrowed the material for the present paper, and to the accompanying table of female cases.

There remains, however, a group of cases of bilateral atrophy of the subcutaneous tissues of the face, which have been supposed to be allied to progressive facial hemiatrophy, in fact, thought to be (if the expression be permitted) a progressive "bilateral facial hemiatrophy." Many of these have occurred in males, and since the publication of certain remarks by A. Simons (25), and since the above-described observations of Gerstmann (33) and Gerhartz (34), one may well suppose that some of them represent a modified (more limited) form of lipodystrophia progressiva in males, and it is possible that the latter disease is more frequently limited to the face (or face and neck) in males than in females. Some of the following examples have been quoted by H. Oppenheim, of Berlin, in his large, well-known text-book.

A. Schlesinger (16) refers to a case of that kind observed by himself, two cases recorded by Moebius, one by Julius Wolff (17), and one by Flashar (18). Schlesinger's case was that of a girl, aged 10 years, in Monti's clinic. The facial atrophy commenced at four years of age, a few months after measles. It was not accompanied by neuralgia or any kind of pain, and it was noticed on the left side of the face before the right side was involved. One of Moebius's two patients was a woman, aged 28 years, in whom the bilateral facial atrophy was first observed after she complained of pains following an injury to her right eye. The other of Moebius's patients was a woman, aged 19 years, in whom the bilateral facial atrophy was said to have followed local pains and an attack of pneumonia. Wolff's patient was a woman, aged 24 years, in whom the right side of the face commenced to waste before the left side was involved. Flashar's (and Eulenburg's) case was that of a woman, aged 23 years, in whom progressive bilateral facial atrophy followed a supposed attack of measles (without cutaneous eruption) at about four years of age.

LIPODYSTROPHIA PROGRESSIVA.

Table of more or less fully described Cases in Females.

Reference.	Age of patient when the affection was first noticed.	Age of patient when the case was described.	Parts affected by the fat-atrophy.	Condition of other parts.	Remarks.
1. Campbell (2) . .	6 years	21 years	Down to pelvic bones	Abundant fat in buttocks and lower extremities	Of Hebrew parentage. Temporary cosmetic improvement by subcutaneous paraffin injections.
2. Simons and Holländer (5 and 6)	11 years	21 years	Down to pelvic bones	Excess of fat in buttocks and lower extremities	Increase of size of gluteal region noted at 5 years of age. Temporary cosmetic improvement by subcutaneous injection of human fat. Biopsy examination made.
3. Weber (3) . .	Probably 16 years	27 years	Down to pelvic bones	Normal amount of subcutaneous fat in buttocks and lower extremities	Of Hebrew parentage. Very active disposition.
4. Weber (35) . .	7 years	Over 30 years	Said to be limited to face and neck	Apparently normal	Commenced after measles. Has long been non-progressive.
5. Osler, recorded by Weber (3)	5 years	28 years	Down to pelvic bones	"Plumpness" of parts below the hips	Fat-atrophy quiescent. Feels well, and in capacity for work is stronger than most women.
6. Fawcett (4), recorded by Weber (35)	8½ years	About 19 years	Down to pelvic bones	Normal amount of subcutaneous fat in buttocks and lower extremities	Fat-atrophy long quiescent. Enjoys ordinary health.
7. Pic and Gardère (8)	Age not stated	4 years after commencement	Down to the umbilicus	"Pseudo-hypertrophy" of the pelvic region and the lower extremities	A course of treatment by rest and feeding led to increase of fat in the lower extremities, but not in the face, thorax, and upper extremities.

8. Laignel-Lavastine and Viard (9)	22 years	39 years	The chest was thin and there was general slenderness of the upper part of the body	Excess of subcutaneous fat in lower extremities and buttocks	Increase of fat first noticed in the legs at 22 years of age.
9. Cautley (29), quoted by Weber (35)	6 years	24 years	Face and upper part of the body appeared thin	Excess of subcutaneous fat in lower extremities and lower part of abdomen	The increase in the size of the legs commenced after diphtheria at 6 years of age.
10. Barraquer, quoted by Laignel-Lavastine and Viard (9)	13 years	25 years	Face and upper part of thorax	"Plumpness" of lower part of trunk and lower extremities	The fat-atrophy commenced rapidly after an influenzal attack at 13 years of age.
11. Cohn (10) . .	6 years	17 years	Down to pelvic bones	Excess of subcutaneous fat in lower extremities and buttocks	The patient complained of weakness in the arms, etc. Her father had had syphilis.
12. Lewandowsky (11) .	A young woman	2 years after commencement	The face and trunk, but not arms, were affected	The buttocks were overloaded with fat	The arms as yet had preserved their normal subcutaneous fat.
13. Herrman (12) . .	6 years	32 years	The face, neck, arms, and thorax	Excess of subcutaneous fat in the lower part of the trunk and in the lower extremities	Of Russian Hebrew origin. Beyond the disfigurement there were no bad effects from the disease.
14. Feer (13). . .	6 years	12 years	The face, neck, arms, and thorax	Abundant fat in thighs and buttocks	Increase of subcutaneous fat not very excessive. Biopsy examination made.
15. Boissonnas, recorded by Feer (13)	6 years	10 years	The face, neck, arms, and thorax	Excess of fat in thighs, buttocks, and abdominal wall	The obesity of the abdominal wall is a special feature of this case.
16. Jolowicz (14) . .	8 years	21 years	The face, neck, arms, and thorax	Excess of subcutaneous fat in thighs and buttocks	At 9 years of age there was temporary arrest of mental development.
17. Christiansen (15) .	12 years	18 years	The face, trunk, and arms	Excess of subcutaneous fat in lower extremities and buttocks	Temporary cosmetic improvement by subcutaneous paraffin injections.

A case described by Nicaise (19) does not concern us in regard to the present question, because the facial atrophy (in a woman, aged 24 years), although it was bilateral (as far as it went), affected only a vertical stripe, exactly in the middle line of the face, from the root of the nose to the margin of the hairy scalp. It was doubtless allied to the "morphœa" kind of sclerodermia.

Bilateral wasting of the subcutaneous tissues of the face has also been observed in connection with skin lesions (lupus erythematosus ?) and in connection with ozæna (Okouneff, 1907).

Other cases of bilateral facial atrophy have been recorded in England. In 1905 H. Batty Shaw (20) demonstrated a boy, aged 10 years, who had commenced to show bilateral wasting of the subcutaneous tissues of the face when he was two-and-a-half years old. The boy was brought to the hospital because his mother feared he might have tuberculosis. A. F. Hertz and W. Johnson (21), in January, 1913, brought forward the case of a young man, aged 26 years, whose face had become progressively thinner during the last two years, so that his friends thought he must be consumptive. There was no weakness of the facial muscles, and otherwise he was well developed and strong. He had had double otorrhœa in childhood. The same authors (22), somewhat later, met with another case of bilateral atrophy of the face, but in that case it was associated with wrist-drop from lead palsy. The patient was an Italian plaster-modeller, aged 38 years. In his book on 'Diseases of the Nervous System,' J. S. Bury has reproduced the photograph of a young lad with bilateral facial atrophy (23).

Other cases somewhat of the same kind have recently been described by J. Husler (1914) (24). He gives portraits of two boys, aged 10 and 9 years respectively, affected in this way. According to A. Simons (25), however, both Husler's cases are genuine ones of lipodystrophia progressiva, differing from typical cases only in the sex of the patients. Yet it should be remembered that typical facial hemiatrophy may commence with wasting apparently limited to the subcutaneous fat.

This brings me to the microscopical appearances of the skin in typical cases of lipodystrophia progressiva. As already stated, the only change that was found from the "biopsy" examination in Simons's case was practically complete absence of subcutaneous fat. The disappearance of the fat was more complete than what is found in the emaciated subjects of the last stage of chronic pulmonary tuberculosis. This result has been confirmed by "biopsy" examination in Feer's first case (13). The lean skin of an affected part in that case showed nothing abnormal, excepting relative absence of subcutaneous fat. E. Kuznitzky and E. Melchior have discussed the question of lipodystrophia progressiva in describing the case of a very thin man, aged 20 years, with a chalky deposit in the subcutaneous tissue at the right elbow (26), but their case appears to me to be allied rather to those of so-called "calcinosis" (multiple calcification in the subcutaneous tissues), with or without the coexistence of sclerodermatous changes (27). The atrophic process recently described by T. C. Gilchrist and L. W. Ketron seems to be of a hitherto unrecorded kind. Their case was that of a girl, aged 8 years, with an affection in her legs, which the authors say is unique; it is an "atrophy of the fatty layer of the skin, preceded by the ingestion of the fat by large phagocytic cell-macrophages" (28).

In regard to the question of the true nature and ætiology of lipodystrophia progressiva I must refer to the disease known in England as "diffuse symmetrical lipomatosis," the sides of the face, shoulders, upper arms, and back of the thorax are often specially affected, as well as the neck. The disease should be mentioned here because to some extent the change in the subcutaneous fat is the opposite of what occurs in "lipodystrophia progressiva." Moreover, it occurs almost exclusively in males. I have seen only one case in a female (30). The patients have practically all of them indulged in malt liquor or other alcoholic drinks. The accumulation of subcutaneous fat in the upper arms in this condition may, as I can vouch, actually hinder movements in the shoulder-joints and prevent the sufferer from getting his coat on and off quickly. I have no doubt that A. Bittorf's case (31) to which Feer (13) refers, for purposes of contrast, was an acute example of diffuse symmetrical lipomatosis of this kind. The commonest clinical forms of the disease are those of the by no means very rare "diffuse lipomata of the back of the neck," or "Madelung's Fetthals," so called in Germany because Prof. O. W, Madelung wrote about it in 'Langenbeck's Archiv' in 1888 (32). Bittorf's patient was a brewer, aged 28 years, and Bittorf suggested the term "adipositas acute symmetrica partialis of thyroid origin" because a good result was obtained in his case by thyroid treatment.

CONCLUSIONS.

In conclusion, I wish to emphasise that certain observations show:

(1) That "lipodystrophia progressiva" is not always *progressive*, certainly not in regard to the extent of the area affected.

(2) That it usually commences in childhood, especially at six to eight years of age.

(3) That in some cases the fat-atrophy in the upper parts was preceded by increase of fat in the buttocks or legs (Nos. 2, 8, 9, in my table of female cases) ; this increase in fat was, therefore, apparently the first sign of the commencement of the disease or syndrome in question.

(4) That this disease or syndrome is not confined, as at first it was supposed, to the female sex. Genuine examples have been recently recorded in males, and it is probable that some of the cases (especially in males) which were formerly labelled "bilateral facial atrophy" were likewise genuine (though less extensive) examples of lipodystrophia progressiva. Perhaps it will be found that in males the fat-atrophy is more often limited to the face and neck than in females.

(5) That the ætiology is unknown, but is probably connected with a disorder of the internal secretions (endocrinic origin).

(6) That the fat-atrophy, however disfiguring it may be, and though it may give rise to annoying suspicions of tuberculosis, etc., does not signify any danger to life, and is not usually accompanied by loss of strength and general health.

REFERENCES.

(1) A. SIMONS.—'Zeitschr. f. d. ges. Neur. u. Psych.,' Berlin, 1911 (Originalien), v. p. 29; EUGEN HOLLÄNDER, 'Münchener med. Wochenschr.,' 1910, lvii, p. 1794. Excellent illustrations of the same case and other cases are given by C. Herrman, of New York, 'Arch. Intern. Med.,' Chicago, 1916, xvii, pp. 516–524.

(2) H. CAMPBELL.—'Trans. Clin. Soc. Lond.,' 1907, xl, p. 272. See also H. Campbell, 'Proc. Roy. Soc. Med.,' Neur. Sect., 1913, vi, p. 71,

(3) F. PARKES WEBER.—*Ibid.*, 1913, vi, pp. 127–133.

(4) J. FAWCETT.—Case recorded by Weber (see 35).

(5) SIMONS.—*Loc. cit.*, and also 'Zeitschr. f. d. ges. Neurol. u. Psych.,' Berlin, 1913 (Originalien), xix, p. 377.

(6) See additional remarks by A. Simons in the discussion reported in the 'Berl. klin. Wochenschr.,' 1913, l, p. 1455, and in Simons's second paper, *loc. cit.* (with microscopic drawings).

(7) F. PARKES WEBER.—'Proc. Roy. Soc. Med., *loc. cit.*, p. 130.

(8) PIC AND GARDÈRE.—'Lyon. méd.,' 1909, cxiii, p. 61.

(9) LAIGNEL-LAVASTINE AND VIARD.—'Nouvelle Iconographie de la Salpêtrière,' Paris, 1912, xxv, p. 473 (with plate).

(10) TOBY COHN.—'Berl. klin. Wochenschr.,' 1913, l, p. 1322.

(11) A. SIMONS.—*Ibid.*, 1913, l, pp. 1454–5.

(12) C. HERRMAN.—'Arch. Inter. Med.,' Chicago, 1916, xvii, pp. 516–524.

(13) E. FEER.—'Jahrb. f. Kinderheilk.,' 1915, lxxxii, p. 1, with illustrations. The second case has been demonstrated by Dr. Boissonnas, of Geneva, on January the 29th, 1914, at the Medical Society of Geneva ('Rev. Méd. de la Suisse romande,' Geneva, 1914, xxxiv, p. 214).

(14) E. Jolowicz.—'Neurol. Centralblatt,' Leipzig, 1915, xxxiv, p. 930 (illustrations).

(15) Viggo Christiansen.—"Lipodystrophia progressiva," 'Hospitalstidende,' Copenhagen, 1914, lvii, pp. 225 and 269. Abstract in 'Zeitschr. f. d. ges. Neur. u. Psych.,' 1914, ix, p. 750.

(16) A. Schlesinger.—'Arch. f. Kinderheilk.,' Stuttgart, 1905, xlii, pp. 374–9.

(17) J. Wolff.—'Virchow's Archiv,' 1883, xciv, p. 393.

(18) Flashar.—'Berl. klin. Wochenschr.,' 1880, xvii, p. 441.

(19) Nicaise.—'Rev. de Méd.,' Paris, 1885, v, p. 690.

(20) H. Batty Shaw.—'Trans. Clin. Soc. Lond.,' 1905, xxxviii, p. 222.

(21) Hertz and Johnson.—'Proc. Roy. Soc. Med.,' Clin. Sect., 1913, vi, p. 92.

(22) *Ibid.*, 1914, vii, p. 11. See also Hertz and Johnson, "Two Cases of Bilateral Atrophy of the Face," 'Guy's Hosp. Rep.,' London, 1913, lxvii, p. 112.

(23) Judson S. Bury.—'Diseases of the Nervous System,' Manchester, 1912, p. 267, fig. 102.

(24) J. Husler.—'Zeitschr. f. Kinderheilk.,' Berlin, 1914 (Originalien), x, p. 116.

(25) A. Simons.—"Bemerkungen zur Arbeit J. Huslers," 'Zeitschr. f. Kinderheilk.,' Berlin, 1914 (Originalien), xi, p. 508.

(26) E. Kuznitzky and E. Melchior.—"Subcutane Lymphsackbildung und Kalkablagerungen in der Haut bei universellem Fettschwund: ein Beitrag zur Kenntnis der Lipodystrophia progressiva," 'Arch. f. Derm. u. Syph.,' Vienna, 1916, cxxiii, p. 133.

(27) See the references given by F. Parkes Weber, "Subcutaneous Calcinosis or Multiple Calcification in the Subcutaneous Tissue," 'Trans. XVIIth Internat. Cong. Med.' (Sect. Derm.), London, 1913, p. 179.

(28) T. C. Gilchrist and L. W. Ketron.—'Bull. Johns Hopkins Hosp.,' Baltimore, 1916, xxvi, p. 291 (good illustrations); also in the 'Journ. Cut. Dis.,' Boston, U.S.A., 1916, xxxiv, p. 728.

(29) E. Cautley.—'Proc. Harveian Soc. Lond.' (not yet published).

(30) F. Parkes Weber.—"Diffuse Lipomatosis in a Woman," 'Trans. Clin. Soc. Lond.,' 1904, xxxvii, p. 220; *cf.* F. P. Weber, "Diseases in their Relation to Obesity," 'Med. Press,' London, 1916, clii, p. 119.

(31) A. Bittorf.—"Zur Kasuistik der Störungen der inneren Sekretion," 'Berl. klin. Wochenschr.,' 1912, xlix, p. 1072.

(32) O. W. Madelung.—"Ueber den Fetthals," 'Langenbeck's Arch. f. klin. Chir.,' Berlin, 1888, xxxvii, p. 106. Madelung refers to a good deal of older English literature on the subject.

(33) J. Gerstmann.—'Wien. klin. Wochenschrift,' 1916, xxix, p. 1209.

(34) H. Gerhartz.—'Münch. med. Wochenschrift,' 1916, lxiii, p. 823.

(35) F. Parkes Weber.—"Lipodystrophia progressiva," 'Quart. Journ. Med.,' Oxford, 1917, x, p. 131.

Addendum.

(36) A. V. Neel.—"Lipodystrophia progressiva," 'Hospitalstidende,' Copenhagen, 1916, lix, p. 1253. Neel gives illustrations of two female patients, but unfortunately his paper arrived too late for me to make use of it.

A NOTE ON URETERAL CALCULI IN CHILDHOOD.*

By Charles Greene Cumston, M.D.

Geneva, Switzerland.

Privat-Docent at the Faculty of Medicine of the University of Geneva; Honorary Member of the Surgical Society of Belgium; Fellow of the Royal Society of Medicine of London; Member of the Surgical Society of Switzerland, etc.

The lodgment of renal calculi in the ureter is a pathological phenomenon occasionally encountered in early life, but it must be uncommon for the very simple reason that renal lithiasis is an affection of adult life. In the cases reported arising in childhood, the stone has usually been found lodged in the pelvic portion of the ureter, and should this occur on the right side great care must be exercised in order to avoid making the erroneous diagnosis of appendicitis, a mistake that I very narrowly escaped making some years ago in a boy, aged 8 years. Had it not been for the fact that the urine contained a few blood-corpuscles and some leucocytes on microscopical examination and that there was no rise in temperature or pulse, I should not have been led to having the child radiographed (which revealed a perfect picture of a stone in the pelvic portion of the ureter), so closely allied were the symptoms to those present in cases of chronic inflammation of the appendix with extensive adhesions. Extraperitoneal ureterotomy and ureterorrhaphy were done, resulting in an uncomplicated recovery.

When a calculus has been satisfactorily proved to exist in some portion of the ureter, its removal by an extra-peritoneal operation is clearly the only logical treatment, as its presence ultimately will lead to destruction of the renal gland from pyonephrosis or uronephrosis, not to mention other complications, such as periureteritis with an ulcerative process, finally resulting in perforation, followed by a ureteral fistula or perinephritic abscess.

One may resort to cystoscopy in children to some extent, and this diagnostic measure reveals the condition of the ureteral orifice on the affected side, as has been so admirably demonstrated by Fenwick, but exploratory catheterisation of the ureter does not appear to have been undertaken in cases of calculi in children, although there exist ureterocystcopes constructed for children allowing a no. 4 ureteral catheter to be passed. But since radiography will tell the tale accurately, it would appear that ureteral exploration will rarely, if ever, be required.

---

* A paper read before the Société Médicale de Genève, February the 7th, 1917.

It clearly seems as if the prompt and early removal of a ureteral calculus in a child is even more urgently indicated than in the adult, for the reason that the ureter in the former is of such small calibre that the stone, once lodged within its lumen, will become a permanent fixture, giving rise in the near future to all the disastrous complications already referred to.

The incision of the abdominal parietes will, as a matter of course, depend somewhat upon the site of the stone. The iliac incision nicely exposes the iliac fossa and small pelvis, and is merely the same incision as that used for ligature of the external iliac artery, only it is carried farther upwards and downwards. If the calculus is situated in the lumbar portion of the ureter, the latter should be searched for at the lower renal pole, and usually the stone can be teased down by gentle digital manipulation until it is within easy reach and can be removed through an incision of the ureter.

A non-infected and only slightly dilated ureter is easily detected, but the same cannot be said of an inflamed and greatly dilated ureter. In this case the tube is deformed and more or less hidden in a bed composed of dense fibro-lipomatous tissue which adheres to the surrounding structures, so that much patience and careful search on the part of the surgeon are essential. Incision of the ureter on the calculus suffers no exception, excepting when the stone is very moveable in a dilated ureter. In this case the incision of the ureter should be made just above the point of the stricture which has given rise to the dilatation, and the stone then being pushed down to this point is retained in place between the thumb and index finger of the operator while the ureter is incised upon it. It is hardly necessary to say that the ureter should have in the first place been dissected out of its bed, after pushing off its peritoneal covering, sufficiently to allow one to grasp it with the thumb and index finger. By making the incision on the stone, injury to the opposite wall of the ureter is avoided, and then, too, the incision need not be as large as the stone, because the concretion will generally slip out through a relatively small slit.

If the calculus is embedded in the walls of the ureter and very adherent to the mucosa, it must be very gently teased out with a pair of very fine scissors, such as oculists employ, otherwise, if this is brutally done, a tear in the wall will readily ensue, thus compromising the result of the suturing.

When the calculus has been extracted it is of prime importance to ascertain the permeability of the lumen of the canal in its entire extent, in order to discover the possible presence of other calculi or a stenosis. If the lumen is found to be intact, it only remains to suture the ureteral incision, or simply to drain, as the surgeon may prefer.

Personally, I prefer to close the ureteral incision by sutures, and on account of the small size of the ureter in children we advise the use of linen thread, No. 500 or even No. 700, such as one employs for suture of the blood-vessels. The sutures should *not* include the ureteral mucosa. The only contra-indication to suture of the ureter is when, from great dilatation, the walls of the tube are reduced to such thinness that it is impossible to insert the sutures without including the mucous membrane. When such is the case, the peri-ureteral structures are to be brought together without tension, and a small drain is placed down to the opening in the ureter. I am decidedly of the opinion that an infected ureter, or a large incision into it, are better treated by ureterorrhaphy than by drainage, primary union having been the usual result. The sutures should be inserted a half a centimetre apart, and if, as I recommend, fine linen thread is used, this can easily be done. Some operators insert a ureteral catheter and sew over it, withdrawing the instrument after all sutures are placed, but before tying them, but I have never been able to convince myself of the necessity of this.

If, after exploration of the entire lumen of the ureter, a stenosis is found, this must be divided, otherwise a permanent ureteral fistula will inevitably result. One may deal with this lesion by internal ureterotomy with Albarran's instrument, or the stricture may be cut from without inwards, this being followed by ureteroplasty. Whichever technique is resorted to, a ureteral catheter must be inserted down into the bladder and brought down and out through the urethra.

A small cigarette drain should be inserted, and the skin incision and that of the muscles closed as in any other abdominal operation, catgut being used for the muscles, silkworm gut for the skin. Other forms of drainage can of course be used, according to surgical common sense.

In closing, I would refer to Gibson's technique for exposing the ureter low down, as I fancy that in children particularly it would be of considerable advantage, although I have never had the opportunity to resort to it. "The incision is begun in the median line above the pubis, extending outward about a finger's breadth above Poupart's ligament until about its middle, when it curves rather abruptly upward and outward to a point on the level with the anterior superior spine of the ilium (see Fig. 1). The aponeurosis of the external and internal oblique is then severed in the line of the skin incision; sometimes some of the fibres of the internal oblique are included. The flap which is thus outlined is separated upward; at the border of the rectus muscle the fascia of the transversalis is opened by a vertical incision; retractors having been introduced, the peritoneum is separated with the patient in the Trendelenberg position, so that by retracting the rectus muscle inward and the transversalis outward, the lower end of the ureter and base of the bladder are exposed in an ample space" (Chetwood, 'The Practice of Urology,' 1913, p. 647).

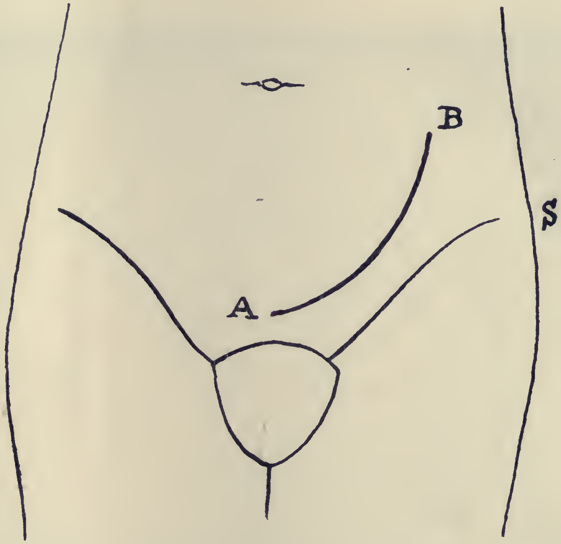


Fig. 1.—Gibson's incision for exposing the lower portion of the ureter. A. B. Gibson's incision. S. Anterior iliac spine.

A CASE OF MULTIPLE URINARY CALCULI.

By Frederick C. Pybus, M.S., F.R.C.S.,
Surgeon to the Hospital for Sick Children; Assistant Surgeon to the Royal Victoria Infirmary, Newcastle-on-Tyne.

Urinary stone when attended by infection of the tract is perhaps one of the most painful and distressing conditions to which children are liable. The patient whose history is here recorded suffered in an unusual degree, and his condition was reduced to one of great misery. Much of this might have been avoided had a systematic examination of his urinary tract been made at the time of his original illness.

The patient, a boy, aged 10 years, was admitted to the Hospital for Sick Children in June, 1915, with marked swelling of the scrotum, penis, and lower abdomen. He had also great pain and difficulty in micturition.

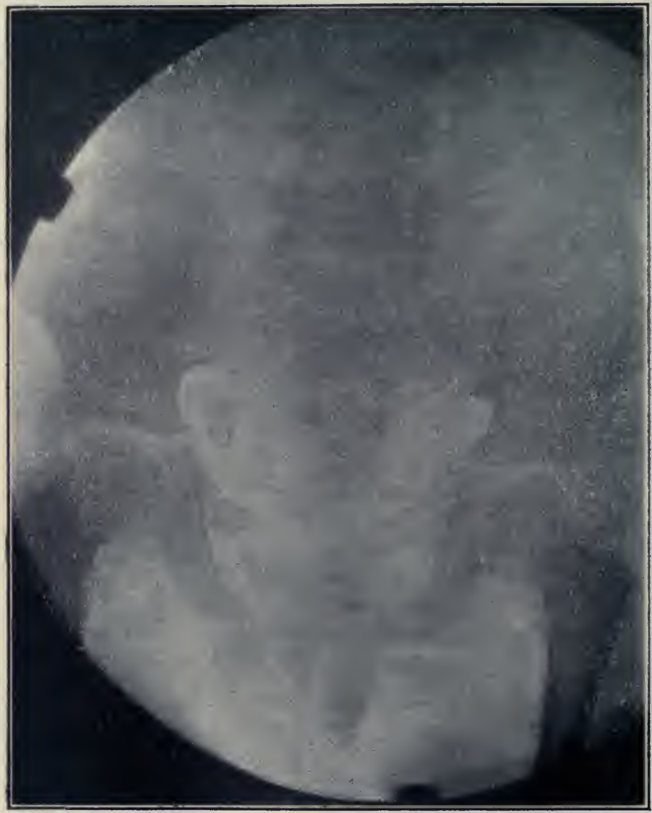


Fig. 1.—Skiagram of oval stone in pelvic position of the left ureter.

The parents stated that three years before he had had a similar condition and was then admitted to another hospital. On this occasion multiple incisions were made in the scrotum and groins, and a calculus was found impacted in the urethra. This was pushed back into the bladder, as it was impossible to withdraw it from the meatus. When the wounds were nearly healed, he was discharged from hospital without any further search or treatment. (This has been verified by an examination of the hospital notes.) Shortly after his return home he passed a small stone per urethram and was relieved for some time. At this period his peculiar facial appearance was noted and he was described as a cretin.

Some time before his second attack he had had pain and frequency of micturition. On his admission to the Hospital for Sick Children he had retention and extravasation of urine for a second time; the scars of the old operation were plainly visible. As I was abroad on military service he came under the care of my assistant, who made incisions in the scrotum and extracted a small stone which was impacted in the urethra. He was considerably relieved after this, and a day or two later passed a larger stone per urethram. He was then submitted to X-ray examination, which revealed an oval calculus in the pelvic portion of the left ureter (Fig. 1) and a second situated in the right kidney (Fig. 2). The skiagrams show these conditions.

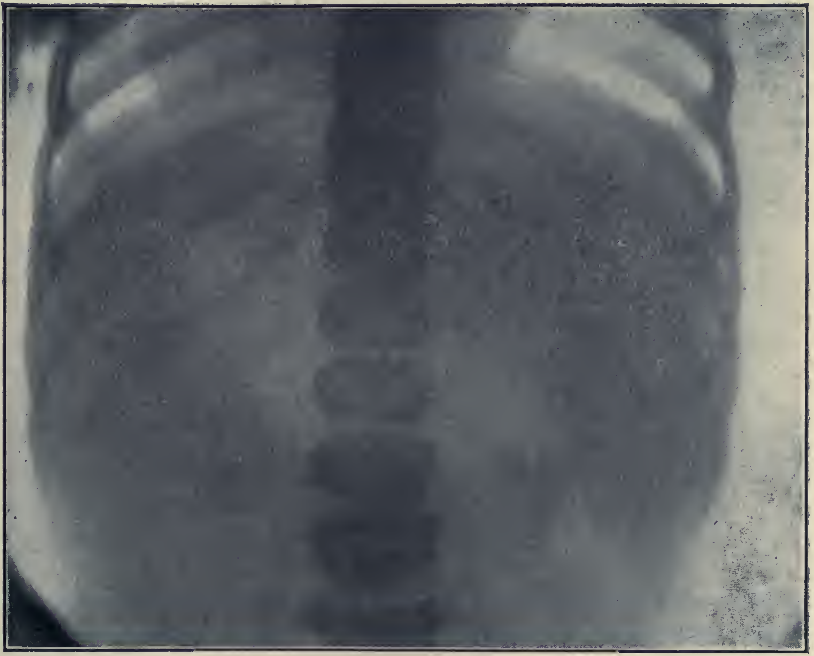


FIG. 2.—Skiagram of rounded stone in right kidney.

The accompanying cystitis was now treated and he was discharged from hospital with instructions to report as an out-patient.

When I saw him in October, 1915, he still had frequency of micturition, was constantly wet, and had the usual odour. His facial appearance suggested cretinism, but his mental backwardness might, I thought, be due to the long-continued sepsis of his urinary tract.

X-ray examination showed that after three months the stones had not altered in position, so it was decided to remove them. *Operation* (1).—October the 22nd, 1915: An incision was made parallel to the outer half of Poupart's ligament. The peritoneum was pushed aside and the deep epigastric artery ligated. The ureter was seen on the peritoneum; it was dilated, and on peristalsis became a tortuous white cord. The stone was found just above the ureteric orifice and was milked up as far as the pelvic brim. It was impossible to bring it further up, so the ureter was incised and the stone extracted without difficulty. No sutures were inserted in the ureter. A rubber tissue drain was placed down to the ureteric opening and the wound closed.

The first operation wound being soundly healed a second operation was performed on November the 14th. I explored the right kidney. No stone could be palpated either in the pelvis or kidney substance. The pelvis was therefore opened on its posterior aspect and a probe discovered the stone in a calyx, from which it could not be dislodged. The wound in the pelvis was closed by one catgut suture and an incision made through the renal substance into the calyx, from which the stone was extracted. The renal wound was closed by one suture.

Convalescence was uninterrupted, and he was discharged on December the 11th. Pyuria was still present, but he was greatly improved in general condition. Indeed, one would hardly have recognised him as the miserable being who was admitted.

Examination in June, 1916, showed no pus in the urine, no further stones in the urinary tract, and a great improvement in his condition both bodily and mentally.

THE PRESENCE OF MENINGOCOCCI IN THE PURPURIC ELEMENTS OF MENINGOCOCCAL INFECTION.*

By Arnold Netter and Marius Salanier.

Cerebro-spinal meningitis is sometimes accompanied by petechial eruptions. In that case it usually presents a special gravity which gained for it in Ireland in 1866 the name of the "Black Death," which was used in the Middle Ages to signify plague.

These purpuric forms have become more frequent during these last two years (17·6 per cent. in 1916 as compared with 2·77 per cent. from 1908–1914) without, however, attaining the frequency which they showed at the beginning of the last century in America and in 1866 in Ireland.

We have been able to prove that contrary to the generally received opinion these cutaneous hæmorrhages are not due to intoxication, but result from the deposit of meningococci around the vessels.

We show the Society the specimens obtained from two cases by staining smears taken from the vesicles which developed on the surface of the purpuric patches. They show a collection of diplococci decolourised by Gram's method and resembling coffee berries, exactly like those found in the cerebro-spinal fluid. The first case was one of meningococcal infection without meningitis. In the second case the meningitis was preceded by purpura.

The first preparation made on March the 7th, 1916, was obtained from an infant of 6 months, admitted on March the 5th, on the day of onset of the disease, with little pink spots like measles all over the body. On the following morning the rash was fading, but we found all over the body and especially on the face, buttocks, and legs violet spots of various sizes and irregular outline, some of which resembled the figures obtained by dropping some ink in the centre of a sheet of paper and then folding it in four. The temperature was about 104° F., and rose the following day to 105·9 and even 106·1° F. There was no sign of meningitis. Lumbar puncture gave issue to a normal clear fluid. We thought, however, that there were grounds for regarding the symptoms as associated with a meningococcal infection, and therefore had the lumbar puncture followed by an injection of 20 c.c. of a mixed anti-meningococcal serum. The diagnosis was confirmed next day by microscopical examination of the serum from a vesicle which covered a part of the purpuric lesion. Other changes which are known to be frequently associated with meningococcal infection were found on the following days, viz. on March the 16th an *irido-cyclitis* of the right eye which ran a typical course, and on the 24th *arthritis* of the left elbow. Some of the purpuric lesions ended in sloughing.

---

* A paper read before the Société de Biologie, Paris, on July the 22nd, 1916.

The child's general state seemed to benefit by the specific treatment. Two intrathecal injections of anti-meningococcal serum were given (50 c.c.), and eight subcutaneous injections (80 c.c.).

Unfortunately at the beginning of April an intercurrent erysipelas supervened and the child's state appeared to be desperate when he left hospital on April the 17th.

In the specimens taken from the second patient the diplococci are less numerous, but equally characteristic. They were taken from a child, aged 5½ years, under the care of our colleague, Dr. Triboulet. The child was suddenly seized in the night of July the 3rd–4th with vomiting and general pains. The temperature was 104° F. There was no sign of meningitis. All we could find were a few violet-coloured petechiæ on the thorax and the left ankle. On July the 5th the purpuric eruption had considerably increased. Although there was no sign of meningitis the house physician, Mlle. Blanchier, performed lumbar puncture which gave issue to a clear fluid without hypertension, with a normal albumin content, containing nine cells per cubic m.m. almost exclusively polymorphonuclears. No micro-organisms were found either in smears or cultures.

On July the 6th the patient's appearance changed. Meningeal symptoms were definite (nuchal rigidity), slight Kernig and convergent strabismus).

The purpuric eruption had increased still more, and the interphalangeal joints of the hands and the wrists showed redness, swelling, and tenderness (*polyarthritis*). This time lumbar puncture gave issue to a turbid fluid under hypertension containing polymorphonuclears and meningococci which we had no difficulty in cultivating.

On July the 7th examination of a small purpuric vesicle showed meningococci.

The child died on July the 8th, although he had had 120 c.c. of anti-meningococcal serum intrathecally on three successive days.

In this case as in the first a blood culture was made, but did not show meningococci.

In a third case of acute meningitis with purpuric onset we were unable to find the meningococcus.

In our first two cases microscopical examination showed the meningococcal nature of the purpuric lesions, although in the first there had never been any meningitis (lumbar punctures of March the 6th, 7th, 8th, and 17th), and in the second case the first puncture showed an absence of suppuration in the cerebro-spinal fluid. The meningococci did not attack the meninges at all in the first case, and in the second case not until several days after the onset of the disease.

The discovery of meningococci in the eruption need not surprise us. It is just the same as the finding of Eberth's bacilli in the rose spots of typhoid fever. In both cases the blood contains the pathogenic micro-organisms.

We have even been able to find the meningococcus in direct examinations of the blood, as is shown by two specimens in May, 1915, taken from a case of cerebro-spinal meningitis accompanied by meningococcal endocarditis, and Alfred Coles has published photographs of the same kind ('Lancet,' 1910, 1, p. 750), as well as Simon and Wadsworth Skilton.

Benda has also seen bodies possessing all the characters of the meningococcus in the cellular masses surrounding an arteriole in sections of a case of meningitic purpura. He was, however, able to detect them in only one case out of five, which he reported on March the 8th, 1916, to the Berlin Medical Society, and published on April 24th in the 'Berliner Klinische Wochenschrift.'

In 1909 and 1910 we looked in vain for meningococci in the herpetic vesicles which so frequently accompany cerebro-spinal meningitis, and we were not more successful in 1915 and 1916 in three cases in which the herpes was situated respectively on the chin, round the anus, and on the legs. Drigalski is credited with having found meningococci in herpetic vesicles in two cases of cerebro-spinal meningitis in 1905. As a matter of fact there was only a single case, and the vesicles had appeared on the ear lobule on the day after it had been rubbed with an alcoholic solution of soap and a specimen of blood taken from it.

The vesicle formation due to irritation should not be regarded as the same as the herpes of meningitis. It is much more closely related to the vesicles which were used in our investigations. Their appearance on the surface of the purpuric lesions should cause no surprise. Benda, indeed, has shown that in the petechiæ of meningitis the skin is infiltrated with polymorphonuclears.

These observations of ours have not only a theoretical interest. Purpura in meningococcal infection may occur some days before the meningeal involvement. The latter may remain latent indefinitely or even be absent altogether. The demonstration of the meningococcus in the skin lesions will confirm the diagnosis. It will give us information more quickly than blood culture which alone has been in use hitherto and of which the results are far from constant. And in cases of this kind, which are always grave, an early diagnosis is of the utmost importance, because such a diagnosis alone will enable us to undertake a rapid and intensive serotherapy which is all the more necessary owing to the special gravity of these cases.

A NEW CASE OF HYPERACUTE PURPURA WITHOUT CEREBRO-SPINAL MENINGITIS: RECOGNITION OF ITS MENINGOCOCCAL NATURE DURING LIFE BY MICROSCOPICAL EXAMINATION.*

By Arnold Netter, Marius Salanier, and Mme. Wolfrom.

In our last communication (July the 22nd) we recorded the presence of meningococci in smears taken from the serum of pupuric vesicles in two cases of meningococcal infection and stained by Gram's method. A few days later one of us, at the Société Médicale des Hôpitaux, showed the importance of these purpuric manifestations, which may occur in the course of an obvious case of cerebro-spinal meningitis, precede the meningeal involvement, or even exist apart from any meningitis whatever. We drew attention to the relatively increasing frequency of these purpuras in England and Germany, as well as in France, and their possible confusion with typhus.

Before these communications of ours, only one article, published by Benda on April the 24th, 1916, which came to our notice after our first case (March the 7th, 1916) made mention in one out of five cases of the presence of Gram-negative cocci which Benda thought he could identify with meningococci.

Since our paper of July the 22nd four writers have published similar findings in their specimens of the petechial elements.

Pick ('Deutsch. Med. Woch.,' 1916, xlii, p. 994) reproduced two figures in his article showing typical meningococci either free or intra-cellular in the skin arterioles in the capillaries and perivascular infiltration. The specimens were obtained from two soldiers who had died from meningitis.

---

* A paper read before the Société de Biologie, Paris, on November the 18th, 1916.

In New York ('Arch. of Ped.,' 1916, xxxiii, p. 641) Sharpe also found, by Pappenheim-Saathoff's method, extra- and intra-cellular meningococci in the capillaries of the ecchymosis of a meningitis in a child aged 3½ years. He believed that this was the first time that such a discovery had been made.

At Prague Ghon ('Deutsch. Med. Woch.,' 1916, xlii, p. 1276), at the autopsy of a girl, aged 9 years, who had died of hæmorrhagic septicæmia without meningitis, found numerous intra-vascular cocci in sections of the petechiæ. Finally, the last issue of our reports ('Compt. rend. Soc. de Biol.,' 1916, lxxix, p. 857) contains a note by Dr. Babes communicated, on May the 3rd, 1916, to the Biological Society of Bucharest, entitled "The Differential Diagnosis of Typhus and certain Hæmorrhagic Forms of Cerebro-spinal Meningitis."

In one of his two cases he saw, in the region of the hæmorrhagic eruption, a collection of round bodies or diplococci, slightly flattened, of varying size and colouration, more or less stained by methylene blue and not by Gram, which were invading the epithelial layers, and even penetrating into the cells of the malpighian layers.

All these examinations had been made *post mortem*, whereas ours were made *during the patient's life*. This is an important point, for it demonstrates the practical importance of our findings from a diagnostic point of view. We, therefore, think it advisable to report a fresh case of primary meningococcal purpura whose nature was revealed during life by microscopical examination.

A male infant, aged 10 months, was born at term and breast-fed. The parents were in good health, and lived in a large well-ventilated court. The father was a horse-dealer, and attended fairs; neither the mother nor the child had had anything to do with strangers lately. The infant had never had any serious disease. A fortnight ago the infant presented all over its body little red spots, in the middle of which a little pimple appeared, but rapidly dried up and formed a crust. The doctor who was consulted thought it was an eruption due to digestive disturbances caused by Nestlé's food, and, as a matter of fact, after this had been stopped the pimples disappeared. The infant, therefore, was in excellent health when, in the afternoon of November the 3rd, 1916, it was seized with shivering and fever. In the evening its head and arms showed some convulsive movements. It was feverish throughout the night, and in the morning the mother found it had large violet spots all over its body. On admission to hospital on November the 4th, at 10 a.m., the child was extremely weak, dyspnœic and cyanosed, and presented slight suprasternal recession. Temperature, 104° F. All the body was covered with more or less extensive violet patches. Some which were rounded, and of the size of a lentil, with the centre a little paler, were situated on the abdomen and anterior aspect of the limbs. On the contrary, the posterior surface of the limbs, the back and buttocks, *i. e.* the situations exposed to rubbing were covered with large wine-coloured patches resembling post-mortem staining. The mucous membranes were cyanosed also, but did not show ecchymoses. On auscultation we found loud râles in both lungs, especially the right.

In spite of the absence of signs of a meningeal reaction we did a lumbar puncture, which gave issue to a clear fluid (found normal on subsequent examination).

Nevertheless, warned by our experience of previous cases, we injected 20 c.c. of anti-meningococcal serum. About the same time we made several small scarifications with a vaccinostyle in the darkest purpuric patches, and we made smears of the sanguinolent serum obtained. The infant's condition rapidly became worse, and, in spite of injections of camphorated oil and mustard baths, it died early in the afternoon.

We have already said that the cerebro-spinal fluid withdrawn was practically normal, *i. e.* contained no excess of albumin; six leucocytes per cubic mm.; and no micro-organisms. The cultures also proved to be sterile. But in the smears of the serum from the pupura we found definite and characteristic meningococci, though they were isolated and scanty. This purpura of fulminating course was, therefore, as we presumed, a *purpuric form of meningococcus infection without meningitis.*

The interest of these findings, both from a diagnostic and therapeutical point of view, is obvious. In our first two cases the purpuric spots had definite vesicles, and the examination was thereby facilitated. In our last case, in spite of the absence of vesicles and by mere scarification of the purpuric spots, we could just as readily detect the existence of meningococci in this situation, and thus attribute the existence of purpura to its true cause, and thereby justify the treatment adopted. In the present case the serum did not have the time required to destroy the pathogenic agent, but it is to be hoped that, thanks to these findings, other cases may benefit from an accurate and appropriate treatment.

SOME POINTS IN LATERAL CURVATURE OF THE SPINE.*

By J. S. Kellett Smith, F.R.C.S.

The first questions that occur to my mind in investigating a case of lateral curvature of the spine range themselves in somewhat the following order:

(1) Has the curve to do with the spine alone, or is it a "curve of accommodation"?

(2) Is there evidence of any past or present internal condition of the chest likely to cause unequal development of the two sides of the thorax?

(3) Is the standing height of the legs equal?

(1) By a "curve of accommodation" is here meant a curve assumed by the patient as an attitude of ease, in order to relieve pressure on a sensitive viscus or nerve. Such a curve, which is postural at first, may become fixed by the efflux of time and end in more or less bony deformity. A tender viscus may also give rise to a spinal curve by reflex nerve irritation through which a unilateral hypertonus of the abdominal muscles or of the erector spinæ is initiated. In this case the patient is often very little conscious of any internal derangement, pain being generally referred to that particular region of the spine in nervous connection with the viscus affected. Both these causes of a curve of accommodation may be in operation together—*i. e.* the patient may be conscious of the effort of seeking an attitude of ease, and at the same time examination may show hyperæsthesia of the skin with increased tonus and irritability of the underlying muscles at some region of the anterior abdominal wall, and, or on the concave side of the spinal curve only.

These cases occur chiefly in patients of riper years, but they are also found in those of earlier age and are not infrequently associated with cardiac mischief.

It is manifestly useless to attempt any cure of the curve by exercises so long as the initial cause is left operative.

The practical deduction is that any case of lateral curvature in which pain in the back is a prominent feature demands an especially careful examination of all the internal organs, even if the patient does not complain of any discomfort therein. A tender ovary, an irritated appendix, a painful floating kidney, or a sensitive gall-bladder, for example, may be discovered, and the measures necessary for its relief will at the same time cure the spinal curvature if this be still entirely postural, or will place the patient in a position to receive successful treatment if it be in an early degree of fixation. It would seem superfluous to insist upon this class of case, but experience shows that their real nature is frequently overlooked in practice.

---

* A paper read before the Section for the Study of Disease in Children of the Royal Society of Medicine on February the 23rd, 1917.

In the past year I had forty-three cases of lateral curvature under observation, and I propose to use these cases to illustrate various points in this paper. In the forty-three there were five examples of accommodation curves; two with left ovarian trouble, total curve right convex; one with movable and tender right kidney, left dorsal and right lumbar curve; one with pain, tenderness, and vasomotor signs over the sensory distribution of the posterior branch of the fifth left cervical nerve, high curve to the right; and one with recurrent biliary catarrh and general tenderness over the liver, total curve left convex.

The first four were in adults. Two (ovarians) accepted operation, one (kidney) refused, and the fourth had the sensitive nerve submitted with success to high-power light.

In each treated case the ultimate result was good, both spinal curve and pain ceasing to give trouble.

The fifth case occurred in a young girl, aged 10 years. Attention to general health, an outdoor life, and a carefully modified series of exercises, which were possible from the beginning, provided a cure.

(2) In his monograph on ionic medication, Stéphane Leduc discussed an interesting phase in the relation between inflammatory affections of the chest and scoliosis. Leaving aside examples of gross mischief, he doubted if average pleural thickenings and adhesions could produce a curvature by reason alone of the contraction of cicatricial tissue. He advocated the view that a pleurisy or a broncho-pneumonic condition long continued might cause a retardation of growth—involving even the skeleton—on the affected side, the results of which would become evident in later years as a partial atrophy in comparison to the healthy side. The *rôle* played in this, and in any subsequent development of a curvature, by pleural thickenings and adhesions would be in limiting the freedom of the respiratory movements, and for this reason he advocated their treatment by chronic ionisation.

I believe we have here described a class of case which is not uncommon, in which one side of the thorax is found to be distinctly less broad than the other. There is little to be seen from the front.

From the back the affected side seems to have lost its lateral convex contour; it looks even and narrow, and, by reason of this, falsely long in comparison to its fellow, it appears as though it were ribbed up with ribs all of equal length. And quite in the early stage of curvature, when the spine is still capable of median position, the "sky line" of the flexed back shows the rib angles on the sound side to be more prominent than the degree of scoliosis would warrant. The whole appearance is quite typical.

In the forty-three cases there were six examples, in four of which there was a history of severe pneumonia, and in two a history of whooping-cough with pulmonary complications.

(3) The influence of a large difference in the length of the two legs in causing a compensatory curvature of the spine is generally admitted. I wish to discuss here the influence of small differences —those of half an inch or so. For the purpose of measuring these I use a pelvic-level,* consisting essentially of a piece of wood curved to fit the body and carrying a spirit-level adjusted to an upper true horizontal edge. Since it is the standing height of the legs that matters the patient stands erect, feet parallel, knees together and fully extended. A pencil dot is placed over each posterior iliac spine. These are readily found; the situation of each is marked by a dimple in the skin, which is generally unmistakable, and is almost always discernible with ease. The upper edge of the pelvic-level is then applied to the two dots, and the position of the air-bubble in the spirit-tube observed. If one side is shown to be lower than the other slabs of wood are placed beneath the patient's short leg until the bubble is central. The sum of the slabs gives the increased thickness of sole necessary to restore the theoretical base of the spine to true horizontal. The posterior iliac spines are used in preference to the anterior. These latter, on account of their wider distance apart, would tend to minimise any error of observation, but in using them we have to presume that the pelvis is symmetrical. In the forty-three cases there were sixteen in which one leg was shorter than the other by anything up to half an inch, and in two of these the pelvis was so twisted that the anterior spines give a palpably wrong reading, the short leg, as shown by posterior examination, being actually on the side of the higher anterior spine.

Incidentally I may say that flat-foot as a cause of difference in the standing height of the legs was curiously absent in my cases, but many of them presented eversion of the whole foot on one side, or both sides, associated with abnormal shortness of the external malleolus. This developmental error is quite common; in the late fœtus, and even at birth, the malleoli are about of equal length, and if the outer one fails to grow downwards to form an external splint, as it were, to the ankle-joint, some eversion of the foot in walking is a likely consequence. It is one condition, popularly known as "weak ankles," and may be seen frequently in any public thoroughfare.

---

* Figured in the 'Lancet,' 1911, i, p. 174.

Of the sixteen cases of short leg, five were short rights and eleven short lefts. An analysis of the former conveys nothing. Two of the cases had the primary curve convex to the right, but one of these had definite signs of sclerotic mischief in the left chest consequent upon pneumonia. Three had the primary curve convex to the left, but here, again, the issue was confused because one of them was left-handed, and another was the case of biliary catarrh, already mentioned, as a curve of accommodation. When we come to the short lefts we are in rather a different position. Four of them presented a single curve convex to the left, and seven presented a double curve with the lumbar section convex to the left. In other words, each of the eleven short lefts presented a curve in entire agreement with the statistics of the case.

These figures are far too few to justify any conclusion, but when we find eleven cases behaving in exactly the same way, then we are justified at least in making a suggestion.

I believe that we have here an argument in favour of the theory put forward in 1912 by Prof. Jansen, of Leyden. He pointed out that the left half of the diaphragm acts more strongly and has a greater excursion than the right half. This asymmetry of action causes a tendency to a left low dorsal curve, which is the common constant factor in the great majority of all cases of curvature. If, then, there is already a tendency for the spine to tilt to the left, this diaphragmatic pull will increase it. Thus, even small deficiences in the length of the left leg assume great importance.

To complete the analysis of the forty-three cases there were two examples of amesial pelvis of the type described many years ago by Richard Barwell, one case following infantile paralysis, one associated with torticollis and another with Sprengel's shoulder, one due to tearing of the deep muscles of the back whilst lifting a heavy weight, one the result of empyema, and one interesting case in which the curvature was discovered after a long period of sling treatment for a broken arm. The remainder—roughly 25 per cent., since three of the foregoing examples are quoted in a double category—were of the usual type, in which no very evident actuating cause, beyond the habit of harmful posture, could be given.

A CASE OF ACUTE DELIRIUM WITH LOBAR PNEUMONIA IN A CHILD.

By Hugh T. Ashby, B.A., M.D.Camb., M.R.C.P.Lond.,
Visiting Physician to the Manchester Children's Hospital.

The following case is of interest on account of its rarity. The patient was a boy, aged 2 years, who had an attack of lobar pneumonia affecting the right apex. Previous to this he was healthy and well advanced for his age. There was no family history of neurosis or psychosis. The pneumonia was severe, with a temperature of 105° F. for most of the time, but it ran the usual course and the crisis came on the seventh day.

Two days before the crisis he became slightly delirious, but after the crisis, instead of the usual sleep coming on, he became more acutely delirious. During this latter time he sat up in bed and was quite uncontrollable. He could not sleep or take food of any kind and fought anyone who came near him, so that there was the greatest difficulty even in keeping him in bed. The pupils were widely dilated, he was incontinent, did not recognise even his parents, and could say nothing.

The temperature was only slightly raised at this time, the respirations were increased on account of his struggles, and the pulse was so fast as to be almost uncountable.

After thirty-six hours of this acute delirium he began to show slight signs of improvement by taking fluids to drink, although he was still quite uncontrollable. At the end of another twenty-four hours (two and a half days after the crisis) he became more rational and slowly regained his usual health, except that he showed signs of having had a very severe illness.

Treatment consisted of giving large doses of chloral hydrate and bromide (gr. vi of each), which had to be repeated several times before he got any considerable period of sleep. He was also encouraged to take as much liquid nourishment as possible when once he started to do so.

The condition was quite distinct from the so-called cerebral pneumonia in that he had no convulsions and the delirium became more acute after the crisis. There were no signs of meningitis.

I am indebted to Dr. H. E. Lees for permission to publish this short account and for asking me to see this case with him.

Royal Society of Medicine.

SECTION OF THE STUDY OF DISEASE IN CHILDREN.

Friday, January the 26th, 1917.

Dr. R. Hutchison, *ex-President, in the chair.*

Acute Pneumonia with Hyperpyrexia followed by Heart-block. —Dr. J. Porter Parkinson.—A boy, aged 14 years, was admitted to hospital on November 22nd, 1916. He was a healthy-looking boy with a good family and personal history. His temperature was 104° F., but went up to 105° F. four hours later. He had been taken ill four days previously, and there were signs of pneumonic consolidation in the lower lobe of the right lung. His general condition was good. At 8 o'clock the same evening however, the sister noticed a change, and found the temperature to be 110° F. Thinking there might be a mistake she took it again in the rectum with two other thermometers which both registered the same height. Relays of iced towels were applied to the chest and abdomen while the arms and legs were sponged with iced water. Shortly before 9 p.m. the temperature had fallen to 104° F. The cold was then discontinued and an ounce of brandy was given, as the boy, though by no means collapsed, had a rather small pulse of 120. During the period of hyperpyrexia he was neither comatose nor delirious and his breathing was not specially harassed.

The temperature rose again some hours later to 109·6° F. and again was lowered by the same method, though this time iced towels were not placed over the precordium; after this the temperature never rose above 105° F., about which height it remained for four more days, and then on the ninth day of the illness it fell by crisis first to 97·6° F. and next day to 95° F. and was a week before it rose to normal.

During the fever the pulse varied between 120 and 100 until the last two days when it was about 90, at the crisis it fell to between 60 and 70, and two days later it fell to 44. It was then perfectly regular and it was possible to demonstrate by a paper flag on the neck that the rate of beat of the auricle was twice that of the ventricle. After about two days this two to one heart-block altered, the pulse became more rapid and also irregular, or rather intermittent, some auricular impulses being still blocked but more coming through. The pulse now varied between 50 and 60, this condition gradually lessened, and after another week the pulse became almost regular, and the rate normal. During this time the heart-sounds were normal and there was no sign of dilatation. A little over a fortnight after the temperature became normal the patient was allowed to sit up a little, but as the pulse-rate increased considerably he was put to bed for a further period.

This case was of interest owing to the presence of two rare complications—hyperpyrexia and heart-block. The former was stated to occur in 0·4 per cent. of cases of acute pneumonia, but was much more common in bronchopneumonia. It was also stated that it was almost always fatal when the temperature rose over 106·6 F. The happy result in this case was attributed to the patient being a young and healthy boy of good physique, and to the promptness of the treatment, which caused less disturbance to the patient than cold baths and was undoubtedly equally rapid in its effects.

Heat-block after acute pneumonia was mentioned by Mackenzie, but he considered it very uncommon, and the experience of most pædiatrists confirmed this. Evidently the poison which had an unusual effect on the heat regulation had also an unusual effect on the heart muscle impairing its conductivity.

Friday, February the 23rd, 1917.

Case for Diagnosis.—Dr. J. PORTER PARKINSON showed a girl, aged 8 years, the fifth child. The first two were stillborn at full term, the third was quite healthy and was now aged 11 years. The fourth was stillborn at full term, the fifth and sixth were now aged 6 and 4 years respectively and were in good health. The seventh and eighth were stillborn at full term. The parents were healthy and the patient's blood gave a negative Wassermann reaction. She had had measles and whooping-cough some years ago. Two years ago the mother noticed movements in the arms, legs, and face. She was treated for four months, and these slightly improved. After a year she returned to school, and soon the movements became worse and the speech got laboured and her limbs weaker. She now could not be got to speak, but understood what was said to her. She was rather emotional and her expression was dull and her intelligence feeble. The face had a lachrymose expression, and the angles of the mouth were drawn outwards. This was accentuated on any movement. The pupils were equal and reacted sluggishly, fundi normal. No squint or ocular paralysis, or nystagmus. Limbs rather thin, gait rather inco-ordinate, and she stood with feet widely apart. Romberg's sign negative. There were involuntary movements of the hands and fingers resembling athetosis; these were more marked on movement. Reflexes all normal. She felt light touches anywhere, and thermal sense was normal; a pin-prick did not seem to hurt her. The heart, lungs, abdomen, urine, and temperature were all normal.

It might be regarded as a case of ordinary chronic chorea, but some points suggested the possibility of the disease described by Wilson in 'Brain' (xxxiv), under the title of "Progressive Lenticular Degeneration," in which there was bilateral softening of the lenticular nuclei combined with cirrhosis of the liver, the latter giving no clinical signs during life. The points of resemblance were the facial expression resembling the "spastic smile" described by Wilson; the tremors of the limbs and their long duration. On the contrary, except perhaps in the face, there was no spasticity at present.

Precocious Sexual Development.—Dr. T. R. Whipham showed a boy, aged 5 years 11 months, who was remarkably big for his age and presented an adult sexual development. His height and weight were those of an average boy, aged 11 or 12 years, but his muscular and general development gave him the appearance of an even greater age. There were five other children in the family, three older and two younger, who were all normal; no deaths, no miscarriages. The parents were normal, and inclined to be small, the father being 5 ft. 8 in. in height and the mother 5 ft. 2 in. The only history of any possible abnormality in the family was that the patient's great-great-grandfather was said to have been "a very big, powerful man."

The boy was born at full term, and weighed 8 lb. at birth. He cut his first tooth at the age of 8 or 9 months and walked at the age of 16 months. During the first year he was breast-fed. The first signs of abnormal development were noticed when he was aged 16 months, and at $2\frac{1}{2}$ years he weighed over 4 st. His present height was 4 ft. 6 in., and his weight 5 st. 8 lb. The circumference of his head was $21\frac{3}{8}$ in., and that of his neck $13\frac{1}{8}$ in. His chest measured $28\frac{1}{2}$–$30\frac{1}{2}$ in., abdomen 26 in., biceps $8\frac{1}{2}$ in., thigh 16 in. There was slight down on the upper lip and very slight on the chin. Around the nipples and on the chest there was a slight hirsuties, but on the back it was more marked. Axillary hair was present, and on the pubes there was a profuse growth. The penis and testes were remarkably developed and of adult dimensions. The boy was strong and his muscles generally were large and firm, like a man's, and he spoke with a deep voice. He had recently started school, and was naturally, at present in the infants' class. He appeared to be of average intelligence, but in many ways his capabilities were more than were usually found in children of the same age. For instance, he dressed himself, even putting on his collar and tie, and cleaned his own boots. He could peel potatoes, sweep the floor, and wash up the tea things and put them away; he could also be trusted on errands, but he did not as yet know the value of money. He held his own with other boys older than himself, and was said to "eat as much as a man." By nature he was sensitive, especially as regards his size and development. So far as could be ascertained, he had not hitherto exhibited any knowledge of sex or sexual tendencies. His general health was good, the only illness that he had had being measles when a baby.

Fragilitas Ossium.—T. R. Whipham showed a boy, aged 9 years, who all his life had been liable to fractures of the bones from trivial causes. The first fractures occurred when he was five weeks old, both femora being then broken. Subsequently he had fractured the right leg twice, and the right fore-arm, and quite recently had had a fracture of the lower jaw as the result of a fall. He presented marked deformities of the lower limbs, but managed to get about with the help of crutches. His health was good, and he was said to be never ill. He had five brothers and sisters, who were all normal, and there was no history of any similar condition in the family.

Cases of Vitiligo.—Dr. J. L. Bunch showed a girl, aged 10 years, who, during the past twelve months, had developed some fifty patches of vitiligo on the trunk and lower limbs. The face and arms were entirely free. The first patch had appeared on the abdomen as a small white patch, which had now developed until it was the size of a five-shilling piece, dead white in colour, and contrasting strongly with the surrounding brown pigmented skin. Some of the other patches were also quite round, but many were irregular in shape, and in places adjacent lesions tended to coalesce. There were no subjective symptoms, and no local hyperæsthesia or analgesia could be detected.

The chief point of interest was the rapidity of onset of the disease. Many of these cases were said to occur only in congenital syphilitics, and the patient's mother said that out of eleven children she had only five living. The patient's Wassermann reaction, however, was negative.

Case of Teratoma.—Mr. J. P. Lockhart-Mummery, showed a girl, born October the 25th, 1916, one of twin girls born at seven months; both twins are living. Patient weighed 3½ lb. at birth, the other twin 8 lb. The patient at birth had had a round tumour, about the shape and size of a tangerine orange, attached over the sacrum and lower lumbar vertebræ. The tumour was covered with normal skin, was somewhat irregular in shape, and contained a number of hard nodules. A little to the left of the centre of the tumour was a minute opening, which discharged a few drops of sticky, white fluid at intervals. The tumour did not seem to interfere with the child, and there was no sign of paresis in the legs, and the rectum, on examination with the finger, was normal. The child was so small and weakly that the question of operation had to be postponed, and the operation was not performed until February the 2nd, 1917. During this time the tumour had grown considerably, being three or four times the size it was when the child came into hospital. The diagnosis was made of teratoma, and this was confirmed at operation. The tumour was difficult to remove owing to the extraordinary variety of tissues and complete absence of any normal anatomy in its neighbourhood. The child stood the operation well, and had now completely recovered.

On examination the tumour was an obvious teratoma, and contained portions of a third child. There was intestine containing meconium, cartilage, a structure which looked like an auricle of the heart, but no hair. Microscopic sections showed fibrous tissue, cartilage, intestinal mucous membrane, and a glandular structure, which might be pancreas or salivary gland.

Extensive Tuberculous Infiltration of the Thoracic Contents and Brain.—Dr. Eric Pritchard showed specimens of this condition from a case which during life had been diagnosed as an intra-thoracic new growth. Post-mortem the whole of the thoracic contents were found to be solid masses of tubercle, adherent entirely to the thoracic wall. The physical signs were very curious: there was no air entry at the lower part of the lungs, and the upper part of the lungs showed progressive failure of air entry; yet at no time were there marked rhachi or râles, or moist sounds.

Lipodystrophia Progressiva.—Dr. F. Pakkes Weber.—(*Vide p.* 81).

Some Points in Lateral Curvature of the Spine.—Mr. J. S. Kellett Smith.—(*Vide p.* 107).

Philadelphia Pediatric Society.

October the 10th, 1916, Dr. John F. Sinclair, President, in the Chair.

An Unusual Case of Typhoid Fever.—Dr. Esther M. Weyl.—The child was a boy, aged 6 years, who was admitted to the Women's Hospital with a history of vomiting, frequent yellow stools, and epigastric pain of three days' duration. The family, social, and past history had no bearing on the case. On examination, the child was found to be well developed although rather pale; there was a diminished resonance over the entire left chest, a soft systolic murmur transmitted equally over the precordium, but the liver and spleen were not palpable. The first two urine examinations showed a few casts. The urine was subsequently negative. The fundi were normal. On the second day after admission, rose-coloured spots appeared on the abdomen. A blood culture and a Widal reaction were negative. During the first week the temperature ranged between 102° F. and 104° F.; respirations were 32, and the pulse 120. The white blood count at this time was 8,820.

During the second week, the temperature was normal in the morning with an evening rise to 102° F. Pulse 112, and respirations 22. The second Widal at this time was also negative. A von Pirquet reaction was positive. The physical examination continued negative with the exception of a few dry *râles* in the upper left chest.

During the third week a relapse occurred, and blood taken at this time showed typhoid bacilli. The spleen now became palpable. The laboratory and clinical findings during the first week raised the question as to whether the typhoid began at this time, or whether the disease really began at the apparent relapse on the third week.

Hypertrichosis.—Dr. Frank Crozier Knowles and Dr. Newell Christensen.—The patient was an Italian boy, aged 4 years. There were several other children in this same family who were entirely normal, and, so far as could be ascertained, no other of the child's relations had been affected with excessive growth of hair. The hair was present over the face, forehead, back, legs, under the arms, and, in fact, on almost every area of the child's body, with the exception of the nose and immediately around the eyes. In some places, such as on the back, the hair was 1 to 2 in. in length. The mentality did not seem to be impaired. Dr. Knowles said that these cases were apt to be hereditary, and often some ductless gland was at fault.

Congenital Lues.—Dr. Knowles also showed a case which had typical signs, such as fissures around the mouth and anal region, and marked peeling of the skin on the palms and soles. He said that these children could stand large doses of mercury,

Bone Transplantation and Arthroplasty of the Elbow Joint.—Dr. Nathaniel Ginsburg.—The child had had myelitis of the humerus following an attack of measles in May, 1915. Bone was transplanted from the leg. There had been two operations. At the present time the child had good elbow motion, but the bone growth had been too active and there was more bone produced than was necessary. This case demonstrated the possibilities of bone transplantation. Dr. Ginsburg said he intended to do another operation. X-ray pictures were demonstrated.

Enlarged Thymus Treated with X rays.—Dr. Percival Nicholson.—This patient was an entirely bottle-fed baby, aged 7 months, who for several months had had a very tight cough which was unrelieved until X-ray treatment of the thymus was instituted. After each X-ray treatment there was improvement. At the present time the child was very much better and had a very slight cough.

Hygroma of the Neck.—Dr. J. R. Wells.—The baby was born with normal delivery. It was very difficult to get any past history on this case. The tumour at the present time was on the left side of the face. In the three weeks in which Dr. Wells had observed the tumour, it had been growing rather rapidly. There was fluctuation, and pressure would send the fluid from one part to another, while the tumour continued as a hard mass in the centre. At the present time there was considerable obstruction to breathing and swallowing.

Ozæna.—Dr. George Coates demonstrated some cases showing the results of vaccine treatment. After reviewing the literature, and discussing the other methods of treatment, Dr. Coates said he felt that while the vaccine treatment did not cure, it offered the best means of combating this disease. The vaccine was made from an organism isolated from beneath the scales on the mucous membrane.

Meningitis closely simulating the Tuberculous Form.—Dr. Thomas Kelly.—This patient had had all the physical findings, and laboratory findings of tuberculous meningitis, except tubercle bacilli in the spinal fluid. The child had recovered and at the present time was perfectly well.

November 14th, 1916, Dr. John F. Sinclair, President, in the Chair.

Treatment of Poliomyelitis from the Standpoint of the Neurologist.—Dr. William Drayton, Jun., said that he did not believe the disease was more than mildly contagious, if contagious at all.

In the treatment of the acute stage, he had tried most of the recommended forms of therapeusis, including normal serum and so-called immune serum (serum from a patient who had recovered from the disease); the adrenalin solution in spinal injections; and most of the other therapeutic measures. After seeing many of the cases injected with serum and adrenalin he believed that lumbar puncture for relief of pressure gave as good, if not better, results than any injection thus far tried. He had seen cases with practically total paralysis of all extremities, chest, back, and neck, make good recoveries with no other treatment than simple lumbar puncture. The percentage recovery from each form of treatment had not as yet been worked out, but there would probably be little difference, if any, in the results.

In his work it was impossible to make fourth-hour spinal injections of adrenalin solution on account of the large number of patients and the small working force. Possibly better results would have been attained if this had been done. He had noticed that the irritability and fretfulness of the patients was much better on cool days. Frequent sponge baths with tepid and cool water, changes of posture, and good nursing were most essential. The diet should be light, but nutritious, and great attention should be paid to the gastro-intestinal tract, as diarrhœa with mucus was a frequent occurrence.

A few cases had had paralysis of deglutition, and these were fed with a stomach-tube until they were able to swallow. A few had had to be catheterised for some days, as they were unable to pass urine voluntarily.

For respiratory paralysis they had found no successful treatment, as it was due to a central lesion. The ordinary respiratory stimulants were valueless, and from this cause most of the deaths occurred.

Frequency of lumbar puncture depended largely on symptoms. Increasing paralysis, great restlessness, irritability, pain, and meningeal symptoms were almost always benefited by puncture. Puncture might be performed two to four times in twenty-four hours without ill-effect, and be continued for days. Recurrence of meningeal irritation, drowsiness, and irritability were often relieved even late in the disease thereby.

After the most acute symptoms had subsided, the treatment varied with each particular patient. Cases showing mere weakness without definite paralysis frequently recovered spontaneously in a few weeks' time: simple rest in bed being all that was required. More severe cases required a variety of treatment depending upon the pain, parts affected, and the extent of the paralysis. Any muscle or group of muscles might be paralysed, and frequent and careful examinations should be made to discover the exact amount and location.

In the early stage of the disease no active treatment should be attempted. Rest was all that was required.

Prevention of deformity was, however, most important, and in treating paralysed legs, light splints of cardboard, leather, wood or metal well padded, or very light removable plaster casts should be used.

Pain persisted in many cases for a few weeks to two or even three months. Perhaps the commonest seats were beneath the knees, in the calves of the legs, in the feet, thighs, back, and neck. The pain was not as a rule severe, and frequently was only elicited by moving the feet or legs.

A good working rule was absolutely no treatment but rest and the lightest friction until a week or two after the pain disappeared, and then massage, electricity, and exercise might be begun.

Massage should be given by an expert and never by an untrained person. At first a very light daily or second-day treatment, slow effleurage, and gentle petrissage, to the arm six to eight minutes, to the leg eight to ten minutes.

Care should always be taken to avoid tiring the patient Many parents and physicians tried to hurry recovery by letting the child sit up or walk too soon, and by pushing massage and exercises.

When the patient first endeavoured to sit up or stand, unsuspected weakness of the abdomen or back was often discovered. Before these cases were allowed to sit up or walk for any length of time a suitable corset should be applied, as by this means deformity might be prevented. The length of time a child should sit up or be on its feet—for many of the lightly paralysed cases could walk—must be decided on with great care.

Gradual increase in the force and duration of massage should be made, and electricity might be applied when massage was first given. Dr. Boyer, of the Orthopædic Hospital, said that he used exclusively the positive pole of the galvanic current in his treatment of the affected muscles, as that was the only current known that would make these muscles contract.

They began treatments in mild cases after six weeks, and severer cases only after two or three months. Treatments should be given daily, and for a period of not more than say six minutes to an arm, and eight to ten minutes to a leg.

After massage and electricity had been given for some time, they began with remedial gymnastics and muscle training.

Prognosis would frequently be asked for by the parents, and it was never well to venture an absolute opinion as to curability or incurability, for some cases improved remarkably after years of treatment

To summarise, order sufficient rest and inactivity in the early stages; gradual increase of massage, electricity, exercise, and muscle training later, with frequent consultations with the orthopædist for the prevention of deformities; encouragement to the patient and parents; and persistence in treatment, even though little if any improvement seen.

Treatment of Infantile Paralysis during the Period of Recovery.—Dr Bruce Gill said that there were three stages in the course of infantile paralysis. The acute stage lasted until all pain and tenderness had disappeared. It occurred from a few days to a number of months. The stage of recovery occupied about a year following the acute stage. Proper treatment was very essential to as rapid and complete recovery as was possible. The final stage was that of permanent paralysis, during which no further recovery of the power in muscles might be expected. However, the orthopædic surgeon might accomplish a very great deal by operative procedures to secure muscle balance and stability of the affected members.

The pathological condition in the spinal cord at the conclusion of the acute inflammation varied in different cases, and could not be certainly diagnosed in each. Many or few of the motor cells might be dead. In the latter case there would be almost complete recovery if the paralysed muscles were kept in good condition to respond to the return of nerve power when it occurred.

The rapidity and amount of recovery in the paralysed members depended not only upon the recovery of the nerve centres, but upon the maintenance of muscular tone and the prevention of over-stretching or contracture of muscles and ligaments and the deformity of bones and joints.

Normal function of any organ or structure was nature's greatest cause of normal growth. The alternation of periods of activity and rest was her only method of development. The same principle held true during the recovery from infantile paralysis, only the periods of rest should be relatively longer than in normal children, because the paralysed members were weakened. Too great or too long a period of activity would exhaust them. Therefore, to secure proper rest and proper stimulation to activity, and to prevent deformity were the two objects of treatment during the stage of recovery.

The amount of rest which the child should have varied in different cases. Where there was a great weakness, extensive paralysis, or emaciation, the period of absolute rest should continue a long time after the inflammatory symptoms had disappeared. In less severe cases it need be continued no longer than for two or three weeks.

Then stimulation should be begun, slowly, carefully, gently. Hot baths and gentle upward stroking movements should be followed later, as the tone of muscles was recovered by alternating hot and cold baths or douches and by gentle muscle kneading.

The electric current was not used to secure contraction in the weakened or paralysed muscles. The interrupted galvanic current was the best, with the positive pole over the muscles and the negative over the spine. Only a few contractions should be produced at first, and with as weak a current as possible to secure the result.

Every effort should then be made to have the child make active motions, *i. e.* to secure a return to normal function. But the strong antagonists of weakened muscles must not be over-developed. He should be allowed to walk and play and lead a normal life as soon as he could so without production of deformity. If weight-bearing was postponed too long the extremity would fail to develop, the bones would not lengthen, and great shortening would result.

However, in paralysis of the muscles of the back the patient must be kept a long time flat in bed to prevent a paralytic scoliosis; and when the upright posture was assumed the back must be supported by a removable jacket or brace.

When the arms were paralysed the child must be kept in bed longer than usual, and when he got up the arm should be carried in a sling to prevent dropping of the humerus at the shoulder.

Deformity must be guarded against from the very beginning of the treatment. The extremities must be maintained, so that weakened muscles were not over-stretched, strong muscles contracted, capsules and ligaments of joints stretched or contracted. The feet must be kept in a position at a right angle to the leg, the knee and hip must be extended, and internal or external rotation of the thigh must be prevented. A short right-angled splint, with a transverse piece of wood on the bottom, should be bandaged to the foot. This device would keep the entire extremity in a proper position.

When the child was allowed to walk, proper shoes and braces should be applied to prevent any tendency to deformity, and to allow weight bearing before it would otherwise be possible.

The paper emphasised the vast importance of proper treatment during the stage of recovery from infantile paralysis. If this was secured, there would be much less necessity for orthopædic operations in the final stage of permanent paralysis.

TWENTIETH ANNIVERSARY.

December the 12th, 1916, the President, Dr. John F. Sinclair, in the Chair.

The Possibilities of a Pædiatric Society.—Dr. Frank Spooner Churchill (Rush Medical College, Chicago).—The object of any medical society is, speaking broadly, the self-improvement of its members, to the end that they may better perform their duties, whether as private individuals towards their patients, or as citizens towards the community. Another object of a medical society is, or should be, service on its part as an organisation to the public at large. The functions of a medical society are thus of a twofold nature—private or individual, public or communal.

A pædiatric society is an organisation or group of people interested in the study and welfare of the child. Like medical societies in general it has a twofold mission to fulfil—individual or private, community or public. The field of such a society is, however, circumscribed, and limits itself to study of various phases of child-life. To a comprehensive understanding of the scope of its work we must keep clearly in mind what we mean by the term "pædiatrics."

To the pædiatrician, pursuing his daily work in a large American city, there is much food for reflection as he observes and comes into intimate contact with the conditions affecting the child of to-day almost from the time of conception up to and through the age of puberty. As he contemplates this widely extended field he sees four phases of the individual's existence, distinct, yet merging the one into the other, in each of which the individual's development may be, and often is, seriously affected by social or community conditions: first, the period of his intra-uterine life, during which his mother's physique, and therefore his own, is affected by her external surroundings; second, the critical passage from intra- to extra-uterine life, the period of the newly born, with its sudden change to a new and totally different environment; third, the period of infancy; and fourth, the more prolonged period of childhood, early and late.

The conditions affecting the individual during the second and third phases of his existence, the periods of the newly born and of infancy, are perhaps less intimately connected with industrial and community states than are those during his first period. We have to do here with individual rather than community conditions, inasmuch as we have to combat chiefly personal ignorance—on the part of the attendant during labour, on the part of the mother herself during infancy.

As the individual merges from infancy, and passes now into the fourth and final one of the periods which we are considering, that of childhood, he becomes exposed directly to general community conditions. He begins to mingle with his mates in back yards, on sidewalks, streets, and alleys, in kindergarten and school. During the first part of this period his chief danger is exposure to communicable disease, and the development of physical defects, which, unremoved, may permanently affect his growth. During the latter part of the period he encounters two unfortunate community conditions: unwise school pressure when kept at school; consignment to hard, unhygienic labour when permanently removed from school.

So inextricably interwoven with the social life of the community have many child-problems become, so complex and many-sided are they, that complete private management is impossible, and can never solve these problems entirely. Private effort may do much to help, but cannot, and should not, possess authority. Thus in the infant welfare movement, private organisations equip and maintain stations with a high degree of efficiency, instruct and train thousands of mothers in the care of their infants; private agencies, however, cannot control the conditions of streets and alleys, cannot dictate housing conditions, cannot regulate a city's milk supply, derived as it is from several different states with widely different dairy laws. Obviously the police powers of government must be invoked to control such conditions. Hence it is that many students and workers of this special problem believe that this work, now generally maintained by private agencies, must eventually be taken over and carried on by the municipality—not a pleasant thought when one contemplates the helplessness of the infant and the rottenness of city government in this, our "so-wonderful" country!

Let the pædiatric society be so organised as to lend its aid to the study and solution of the various community problems already discussed, and for this purpose let there be established, in addition to the usual executive committee, certain standing committees as follows:

A Committee on Infant Welfare.
A Committee on Schools and Education.
A Committee on Playgrounds and Gymnasia.
A Committee on Legislation, Child Labour, and Juvenile Courts.

The establishment and conduct of juvenile courts and the enactment of child-labour laws have not, to my knowledge, ever received from pædiatricians, either as individuals or societies, the attention and support which their importance demands.

In the difficult and widespread field of child-labour, the cruelties and burdens borne by the young in our great, prosperous country constitute a national shame and disgrace, well known to us all, crying aloud for all, with or without medical training, to make every possible effort to correct the evil. A pædiatric society can well lend its influence to the amelioration of this suffering class of children.

It goes without saying that work of this public or community nature should not crowd out or displace the individual work now being done by pædiatric societies. This more personal work, these exhaustive studies on the child already sick—on the machine already out of order—should and must be pursued. I do not intend, nor is there any danger, that studies on the pathology and physiological chemistry of the child should be neglected or curtailed. But in addition, let us broaden out our roots of things, strive constantly and insistently to destroy causes which make the child sick, which force him, sick and in great numbers, into our hospital wards, into our juvenile courts, out of our playgrounds, out of our schools prematurely into factory, shop, and mill—in a word, let us apply broadly the general principle of "preventive medicine," or "preventive pædiatrics," to these complex problems so seriously threatening the child-life of the nation.

I believe that efforts along the lines indicated in this paper, efforts both individual and organised, will do much to make our country a better place for children to live in, much to improve the quality of coming generations, will contribute much towards what is, after all, the greatest object in life—the rearing of healthy and happy children.

The Relation between Pædiatrics and General Medicine.—Dr. Henry Dwight Chapin (New York).—The evolution of pædiatrics into the dignity of a specialty has been of comparatively recent date. It is still in process of development. Many obstacles have been encountered in the ascent of this important branch. Some questions are yet in process of settlement. The relation between pædiatrics and general medicine and the position the former is destined to occupy will be determined largely by societies and occasions such as this. It is not necessary to dwell upon the great importance of pædiatrics before any medical assemblage.

The general public, professional as well as lay, however, often seem slow in recognising relative values in the different departments of medicine. The beginnings of life certainly constitute the most favourable period for studying all the phenomena of life—normal as well as abnormal.

Pædiatrics is simply applying the study and practice of internal medicine to one part—and that the most important period of life Here, as in other branches of medicine, we must avoid the danger of over-specialising. When pædiatrics is treated as an extreme specialty, the tendency is to detach it too much from general internal medicine, and both thereby are apt to suffer.

It is a mistake to carry to extremes the specialisation of any branch of medicine. While there may well be specialisation in technique, it should ever be kept in mind that infants, children, and adults are not different species, but merely different forms or stages of a single species.

The chemical basis of life is the same at all stages of the life cycle. The same fundamental food materials are used by the embryo, the infant, the child, the adult, and the aged. The form of the food materials may not be the same at all stages of life, for change in form of the food goes hand in hand in some instances with a change of form and structure in the individual. Milk is a striking example of this fact. Here is a liquid food which turns into a solid under the action of the stomach secretions, the degree of solidity keeping up with the capacity of the stomach to utilise food of increasing density. The casein of milk has a developmental as well as a nutritional function, which has been brought out by a study of the biology of nutrition in connection with the various milks.

The finest possible training for the general practitioner and specialist can be procured by paying full attention to the problems of infant care and nutrition. Here the physician must depend upon his own powers of observation, for the infant cannot tell him anything. It is almost like a laboratory training.

The chemical processes of nutrition in the adult are the same as in the infant, and if they were better understood it would not be difficult for the same physician to manage this problem with either infant or adult. As long as the stress is laid upon matters of form and technique in nutrition, so long will it be necessary to specialise in this direction. Remedy for this over-specialisation is a complete knowledge of the basic principles of general nutrition in connection with the changes of form and structure during development.

While the study of pædiatrics in its broadest outlook reaches out into almost every field of endeavour, there are thus some phases that are peculiarly its own. It is often necessary to start with embryology and consider developmental defects and diseases of the fœtus itself in order to fully understand conditions that may ensue after birth.

Of the three great critical periods of life—birth, adolescence, and beginning old age—the first is the most important.

It would take too long to recall all the list of diseases that so well repay special study during the early years of life. Rickets, the commonest developmental disease of infancy, may be particularly mentioned as warranting future study. The susceptibility of infants to bacteria, due to their active metabolism, is shown in many kinds of sepsis, and must always concern the practitioner.

The study and treatment of actual disease is not all that concerns the pædiatrician. No branch of medicine opens out into such a wide field of prevention and sociological investigation. Nowhere does medicine touch life in such a close connection as with the child. Permanent race betterment must be accomplished entirely through the young. Infant mortality is thus a grave and pressing problem for the pædiatrician.

In later years, school hygiene should be regulated more by the pædiatrician than by the politician. Too long sessions, cramped positions from improper chairs and desks, imperfect ventilation, poor lights, and a bewildering variety of studies are all too frequently present, and handicap the child during the school age. Not only health departments, but school boards, and even legislatures, should include competent physicians in their membership. The pædiatrician is needed to instruct the pædagogue in some fundamentals of child nature and growth. The latter might not fail so frequently if he had the benefit of such instruction.

One of the great services that pædiatrics may render to medicine is in the field of original research. It offers to-day the most promising field for advanced work in scientific and experimental medicine.

All the specialties require a thorough grounding in the underlying principles of medicine. The old idea that work in any specialty should be preceded by wide experience in general medicine still holds. The quick step from medical college to a speciality without this previous experience has proved disastrous. It has produced a group of skilled medical mechanics rather than broad-minded physicians, who can work in a specialty without detaching it too much from all relations to general medicine. Pædiatrics should be one of the broadest of the specialties; it has been aptly described as the specialty of the general practitioner.

The Future of Pædiatrics.—Dr. JOHN HOWLAND (Johns Hopkins University, Baltimore).—The justification for the existence of pædiatrics as a specialty rests largely upon the study of two types of disease—the nutritional diseases of infancy and early childhood, and the infectious diseases, including the exanthemata. The infectious diseases, while common to all ages, are in many instances particularly apt to affect children—at least in cities, where constant opportunity of infection is given. Thus it has come about that at the present time the diagnosis and treatment of measles, scarlet fever. chicken-pox, pertussis and similar diseases is almost entirely in the hands of the practitioners of the diseases of children These two types of diseases, the nutritional and the infectious, belong to the domain of the pædiatrists. The trunk of pædiatrics has, therefore, two main roots.

It seems reasonably safe to maintain that for the future that lies within our horizon the advances that are to be made in these two fundamental departments of pædiatrics, the nutritional and the infectious diseases, will be made with the assistance of chemistry and bacteriology, with their several subdivisions. It is quite evident, also, that chemical methods of investigation in pædiatrics have undergone a considerable alteration, even in the last fifteen years, which is almost the limit of their application. In the last few years great strides have been made in the understanding of the chemical processes of intermediary metabolism, chiefly by means of analyses of the blood. These have been made possible by an elaboration of a number of microchemical methods—methods sufficiently accurate to determine most minute quantities, and yet with a degree of accuracy sufficient for the purpose. With these in hand, studies have been made of fundamental importance It is quite sure that these methods will increase in number and in application, and that the knowledge gained by their means will be much greater than that gained by the older method of balancing the ingesta against the excreta.

The infectious diseases are the other great root of our stem. They are many and vastly important, and yet, with the single exception of diphtheria, they are very improperly understood. Upon the accurate and complete knowledge of their ætiology depends the possibility of successful therapy. So far as we know at the present time, treatment of this class of diseases *must* be with biological products, and until we can separate the offending bacterium or virus, cultivate it, and obtain biological substances detrimental to its life or antagonistic to its poison, we are far from our goal.

In the study of both of these types of diseases, the nutritional and the infectious, specialised knowledge is absolutely necessary; for the former it is largely chemical, with the latter it is largely biological, and this brings up the question—Who is to make these studies? Is it the clinician, trained as the clinicians of the past have been, and as the majority of those of the present generation are? Certainly not. We have been trained, with few exceptions, with but slight emphasis upon the fundamental sciences. We have been trained for diagnosis and for treatment, and, I might say, parenthetically, very imperfectly trained, for without the knowledge of the fundamental sciences diagnosis cannot be sufficiently exact, nor therapeutics sufficiently intelligent. It seems unlikely that the clinician not provided with knowledge of the fundamental sciences will contribute very much to the pædiatrics of the future. The clinician has a most important position in the community to fill, and he fills it well, but the better he fills it the more demands are made upon his time, his thoughts, and his strength. The clinician has always been essentially an observer, and the ground that he must cover has been already covered by generations of shrewd, careful observers, and they have seen, not all, of course, but most, of what appears upon the surface. At the present time one must dig below the surface.

It seems that the contributions are to be made by clinicians, but clinicians trained in a very different way from the way that they have been trained in the past—by those who have, in addition to their medical education, an insight into the fundamental medical sciences, those who have devoted several years, either before or after their medical school years, to routine and research in chemistry, biology, or physiology. Such men, as clinicians, appreciate these problems, which are most necessary and most important for attack. As scientists they recognise the means by which they can be attacked, and discard, or postpone until some further means are provided, the problems for which there are at the present no appropriate methods for study. This seems the hope for the future.

It would be unfortunate to give the impression that the hope for the future lies only in the new information that is to be gained. There is much knowledge at the present time of which advantage is not taken. It should be spread. Our duty is to cure disease. It is also to prevent disease. We may say without exaggeration that the larger part of the distressingly great mortality among infants and young children is preventable, and by methods already known.

What is roughly outlined seems what we are to expect in the way of advance from pædiatrics in the future. The one body of men will increase the knowledge of all diseases to which the young are liable, but chiefly of those that are the foundation of pædiatrics—the nutritional and the infectious diseases—and they will do this largely in hospitals and institutes with special facilities. The other body will, by precept and example, educate those to whom is given the care and rearing of children. For both of these purposes, the investigative and the educational, the organisation is being perfected. There is no justification for dissatisfaction with the outlook. The future is bright with hope.

January the 9th, 1917, Dr. JOHN F. SINCLAIR, in the chair.

Congenital Pyloric Stenosis.—Dr. DAMON G. FFEIFFER.—The patient was a girl, aged 4 weeks, the only child of healthy parents. At birth the baby weighed 7 lb. 13 oz., and was apparently normal. For the first week the child took the breast, and showed no digestive disturbances. During the second week she began to vomit occasionally. Various formulas were tried without effect, and the vomiting grew worse, while the baby lost weight rapidly. The bowels moved scantily. In the fourth week Dr. Charles A. Fife was called in consultation by the attending physician, Dr. George A. Parker, of Southampton. Visible gastric peristalsis could now be observed at times, but no epigastric tumour was palpable. The child displayed evidence of ravenous hunger, taking food eagerly and sucking its thumbs. With the diagnosis of hypertrophic stenosis of the pylorus the patient was referred to Dr. Pfeiffer, at the Abington Memorial Hospital, for operation. The weight by this time was barely 4 lb. The pulse was exceedingly thin and weak, and the temperature subnormal.

Under ether anæsthesia, a posterior gastro-jejunostomy was made without special difficulty. Hypodermoclysis was given during the operation, and the patient left the table in good condition. She vomited once the following day, and the stomach was washed out, a small quantity of biliary material being obtained. Feedings of whey were begun. The next day the baby showed evidence of excessive weakness, and died a few hours later.

Post mortem the peritoneum was everywhere glistening, and showed no evidence of peritonitis. The gastro-jejunostomy was mechanically satisfactory. The pyloric canal for a distance of about an inch was tightly constricted, as had been observed at operation, by a thickened muscularis, measuring 6 mm. in depth at its thickest part. There was no apparent œdema. The longitudinal incision through this part of the muscularis was made after removal of the specimen, and showed beautifully the distinctness of the separation of the muscularis from the submucosa and the elasticity of the latter, thus illustrating the ease and effectiveness of a Rammstedt procedure, which was considered, but not practised, in this case. It showed also the sharp limitation of the muscular thickening to the gastric side of the pylorus, an important point to observe in performing the Rammstedt operation because of the ease with which the duodenum could be opened.

The case illustrated the fact, which had been pointed out by Holt, Downes, and others, that sudden collapse might occur in these weakened infants, with or without relief of the obstruction, and showed the advisability of resorting to surgical measures at an early period.

In the subsequent discussion Dr. Pfeiffer said that, as in appendicitis, it was often hard to tell what cases would recover without operation. He believed that some cases would be saved by operation that would die under medical treatment. The present case was operated upon because she would undoubtedly have died without operation, and had a small chance with operation. He had consulted many authors, and found that the mortality for medical treatment was often as high as 53 per cent. The mortality in sixty-six cases operated on by Downes in New York was less than 23 per cent.

Thrombosis following Measles.—Dr. J. A. Perkins.—The patient was a girl, aged 6 years, whose family history and past history were negative. Six months ago the child developed measles. Following the attack the mother noticed an internal strabismus and later that the child staggered slightly when she walked. Prior to the attack of measles the child had been quite bright, but since then had been distinctly backward, and until very recently had talked but little. On examinatien the following salient points were elicited: A large square head, thick heavy neck, apathetic expressionless facies, convergent strabismus, lateral nystagmus, equal pupils which reacted to light and accommodation, normal reflexes. The intellect seemed impaired and the child was very unresponsive. The gait was unsteady and staggering with a tendency to fall to the left. The feet did not drag.

By spinal puncture 25 c.c. of clear fluid under normal pressure was withdrawn. This fluid had a total cell-count of twenty, of which twelve were polymorphonuclears and eight lymphocytes. There was a marked reduction of Fehling's solution; no globulin. There were no bacteria either in smear or culture. The first Wassermann reaction was a delayed negative, and the second was negative. The von Pirquet was negative. The blood showed 82 per cent. Hb., 4,380,000 red corpuscles, 8400 leucocytes, and a normal differential count. The first urine examination showed a trace of albumin and some hyaline and granular casts, although subsequent specimens were normal Eye examination by Dr. Shumway showed convergent strabismus of the right eye; the left eye would fix but not retain; the left eye moved outward but not as freely as the right; almost constant nystagmic movements, which were greatly increased on moving to the right or left; the eye grounds were healthy; the pupils equal and responded normally. The condition was probably not paralytic.

Dr. **Burr** suggested the possibility of cerebellar thrombosi at the time of the measles, although the present condition might be merely the residual effect of a basilar meningitis, and a primary degeneration of the cortex must be considered.

The Barany tests by Drs. Jones and Fisher suggested a lesion of the brain-stem in the posterior aspect of the upper portion of the anterior superior portion of the pons involving the adjacent portion of the anterior superior portion of the cerebellum. During the time that the child was in the Children's Hospital until the present she had shown some improvement, although the gait was still unsteady and there was slightly increased swaying on closing eyes when standing with feet together. The finger to nose test was performed well. The child seemed more intelligent and at times would talk. She had a partial paralysis of the muscles of the right side of the face.

Dr. **Spiller** suggested hydrocephalus and cerebritis,resulting from occlusion of the aqueduct of Sylvius, which in turn might have been due to a meningits following occlusion of an artery supplying the part (possibly a thrombus at the time of measles).

An X-ray of the head made by Dr. Bowen was negative except for a slight thickening of the right maxillary sinus.

Dr. **Burr** said that the case was illustrative of the fact that measles was not without serious consequences.

Malposition of the Colon.—Dr. W. H. **Johnson.**—The patient was a boy, aged 9 years. The child's mother died of tuberculosis, and although there were four other children in the family living and well, none of them presented any disturbance of the gastro-intestinal tract. The present illness dated back to infancy and was manifested by persistent constipation. Up to the third year castor oil or salines acted satisfactorily if given in large doses. At that time, however, the child went for eight days without a bowel movement. Unsatisfactory stools then resulted from enormous doses of cathartics. Since that time constipation had been growing more obstinate and now the child would sometimes go for a period of two or three weeks without a bowel movement. During these attacks he did not vomit; his appetite did not fail until about the sixth day, and he suffered from headache and malaise. He did not have fever, and the abdomen was not noticeably distended until the second week. He had epigastric pain. During the intervals he was apparently in good health. At the time of showing the child he had not had a bowel movement for nine days. His abdomen was distended and for the most part tympanitic.

Dr. JOHNSON said that when the abdomen was not distended there seemed to be a slight tenderness over the epigastrium and a palpable mass in the lower right quadrant of the abdomen. The liver and spleen were not palpable. The urine contained an excessive amount of indican. The X-ray report by Dr. Mangus furnished the diagnosis: "The descending and part of the transverse colon appear to be on the right side, probably as a result of a failure of rotation of this part of the bowel. The sigmoid flexure is in the midline and the cæcum is presumably obliterated by the malposed section of the bowel. No kinking of the bowel is demonstrable. The descending and transverse colon are greatly dilated." Dr. Johnson said that the prognosis of the case under medical treatment was very unfavourable.

Feeding in the Second Year.—Dr. MAURICE OSTHEIMER.—As a result of feeding over 600 infants of from 12 to 24 months of age, in the past six years, Dr. Ostheimer believed that the common practice of five or six meals consisting chiefly of milk and broths should be discontinued, and infants given only three meals a day.

The transition from milk to solid food should be gradual; gradually increasing the amount and number of foods given; allowing drinks of milk half-way between meals until the baby took three good meals. All food should be carefully prepared and the baby fed slowly. Nothing to eat was allowed between meals.

The three meals consisted of (1) Breakfast, between 7 and 8, strained cereal; stewed fruit; toast, zwieback or stale bread, with butter; soft boiled egg and milk. (2) Dinner, between 12 and 1 p.m., baked potato; green vegetable; stewed fruit; toast, zweiback or stale bread, with butter, and milk daily; with meat or boiled fish twice a week; and corn starch, custard or milk pudding twice a week. (3) Supper between 5 and 6 p.m., stewed fruit; potato; cornstarch; rice; custard or soft-boiled egg; toast, zwieback or stale bread with butter, and milk.

Abstracts from Current Literature.

Acute Poliomyelitis.

The ætiology of epidemic poliomyelitis (*'Journ. Amer. Med. Assoc.,'* 1916, LXVII, *p.* 1202).—**E. C Rosenow, E. B. Towne** and **G. W. Wheeler** have isolated a peculiar streptococcus from throats, tonsils, abscesses in tonsils, and from the central nervous system in cases of poliomyelitis. Paralysis has been produced in animals of various species by intravenous and intracerebral injections of this organism and lesions of the grey matter of their nervous system have been demonstrated. From the nervous system of these animals the streptococcus has been isolated in pure culture. The organism is remarkably polymorphous and appears to grow large or small according to the medium in which it is grown even after passage through a Berkefeld filter. Using the organism in its large form paralysis has been consistently produced in animals known to be insusceptible to inoculation with material from epidemic poliomyelitis as heretofore practised. After paralysis had been produced in a series of three rabbits, the strain caused paralysis and lesions of poliomyelitis in monkeys. It appears that the small, filterable organism which has been generally accepted as the cause of poliomyelitis may be the form which this streptococcus tends to take under anaërobic conditions in the central nervous system and in suitable culture media, while the larger and more typically streptococcic forms which investigators have considered contaminations may be the identical organism grown larger under suitable conditions.

T. R. Whipham.

Experimental studies in the ætiology of acute epidemic poliomyelitis (*'Journ. Amer. Med. Assoc.,'* 1916, LXVII, *p.* 1205.)—**J. W. Nuzum** and **M. Herzog** have isolated a similar organism to that described by Rosenow, Towne and Wheeler from the central nervous system, tonsils, mesenteric glands and cerebro-spinal fluid from cases of poliomyelitis, and have produced experimental lesions with it in animals. They, too, have found the organism to be polymorphic. Aerobically it grows large, but under anaërobic conditions it assumes a form so small that it may pass through a Berkefeld filter. In considering this gram-positive coccus in its ætiological relation to acute poliomyelitis it must be remembered that it may act as a carrier of a real ultramicroscopic virus, which, together with this micrococcus, might still be transferred in cultures and be transmitted in inoculations. In tissues from the central nervous system preserved in 50 per cent. sterile glycerine this same micrococcus was alive after a period of thirty-five days, and could be cultivated in pure culture on suitable media.

T. R. Whipham.

Predisposing factors in poliomyelitis (*'New York Med. Journ.,'* 1916, CIV, *p.* 202).—**M. Talmey.**—Pettenkofer held that for every infectious disease predisposing factors were a sure *sine qua non*, thus putting the organism into a place of minor importance. The predisposing factors of poliomyelitis are numerous, otherwise it would not be ubiquitous. One factor Talmey considers is tonsillectomy ; this may act in two ways, first, the trauma, with its effect on mind and body, leaving the nervous system in a condition of weakened resistance. The second way is the removal of a valuable protective substance, the nature of which is as yet unknown, which may act in the manner of ferments. So the tonsil may have the same relation to poliomyelitis as the thyroid to myxœdema and other diseases. The writer suggests further investigation on these lines.

J. Porter Parkinson.

Poliomyelitis: some remarks on its epidemiology, pathology, and symptomatology (*'Med. Journ. of Austral.,'* 1916, II, *p.* 423).—**H. D. Stephens** objects to the word infantile paralysis, and adopts the above term. Its normal mode of infection is by the lymph spaces of peripheral nerves, particularly the nasal nerves to the spinal cord or brain. The incubation period is from two days to two weeks, or longer in some cases, Many people may be infected but show no signs of the disease, owing to either enfeebled virus or high resistance of the individual. The disease is transmitted through direct contact with persons suffering from an acute attack, or from one of the so-called abortive types, or with carriers, and not by flies or vermin. There are eight different clinical types of the disease. (1) A superior encephalitic or cerebral type in which the attack falls on the cerebral cortex. (2) An inferior encephalitis, including bulbar, pontine, and mid-brain forms. (3) A cerebellar or ataxic type. (4) A spinal type. (5) Ascending and descending types (allied to Landry's paralysis). (6) A neuritic type. (7) A meningitic type. (8) An abortive form.

F. R. B. Atkinson.

Afebrile non-paralytic poliencephalitis (*'Arch. of Ped.,'* 1915, xxxii, *p.* 755).—**L. C. Ager** describes a case in a previously healthy male infant, aged 19 months. Projectile vomiting, accompanied by general convulsions, more marked, however, on the right side, were the first symptoms observed. The cerebro-spinal fluid was clear, contained an increased number of large mononuclears, and augmented globulin content. Kernig's sign, and Brudzinski's neck and contralateral signs were present. A diagnosis of tuberculous meningitis was made. Death took place on the fourth day of the disease, but post-mortem no signs of tuberculosis were found. The patient was quite unconscious, the pupils were dilated and did not respond to light, but there was no paralysis. In the second case, in a female aged 2½ years, digestive disturbances were shortly followed by coma. There was a marked tendency to convulsive spasm, but this spasticity largely disappeared if the patient was left undisturbed. The cerebro-spinal fluid was of the same nature as in the case first described. Two c.c. of the cerebro-spinal fluid, followed by three doses of 5 c.c., were injected into the thigh. Improvement as estimated by diminished spasticity and diminution of unconsciousness was noted until the eighth day, when fatal pneumonia ensued. No paralysis except that of the bladder was noted.

Christopher Rolleston.

Epidemic poliomyelitis (*'New York Med. Journ.,'* 1916, civ, *p.* 727).—**W. S. Bryant** speaks of the nasopharyngeal aspects of this disease. Abortive cases and carriers are said to be four or five times as numerous as those with paralytic symptoms. He considers effective treatment of the nasopharynx to be of the greatest importance. He recommends spraying the nose with 1 per cent. cocaine and 1 in 8000 adrenalin to shrink the turbinates, and swabbing the inferior meatus of the nose with hydrogen peroxide. If there be much adenoid tissue he recommends applying nitrate of silver 10 per cent. in children or 25 per cent. in adults; if there be little adenoid tissue a saturated solution of alum is used. The treatment is repeated after four days.

J. Porter Parkinson.

The relation of Landry's paralysis to poliomyelitis (*'Med. Record,'* 1915, lxxxviii, *p.* 436).—**M. Neustaedter** comes to the following conclusions: (1) Landry's paralysis is a clinical entity with varying pathological changes. These may be primarily in the peripheral nerves and confined to them, or they may be myelitic only, and again neurocellular. (2) Poliomyelitis is a pathological entity with varying symptom complexes. There may be flaccid paralysis with muscle atrophy, or spastic paralysis, or cranial nerve involvement, also ataxias and tremors, or mixed types.

J. D. Rolleston.

A reaction of immunity in acute poliomyelitis (*'Journ. Amer. Med. Assoc.,'* 1916, lxvii, *p.* 1935).—**G. Mathers** and **R. Tunnicliff** have made experiments which indicate that specific opsonin for the poliomyelitis coccus found in the brains and cords of patients dead of acute poliomyelitis develops during the course of the attack. This opsonin usually appears in the blood during the second week of the disease. That it is specific seems likely, since no change was observed in the opsonin for *Streptococcus pyogenes* or *Streptococcus viridans.* The increase in opsonin for the poliomyelitis coccus during the course of an attack of acute poliomyelitis suggests strongly that the organism is of importance in the causation of the disease. Furthermore, it was found that the serum of rabbits immunised against different strains of poliomyelitic cocci contains antibodies in high concentration, especially opsonin, which are apparently specific for the poliomyelitis organisms. If the results are verified, the outlook for the development of a specific immune serum will seem encouraging. T. R. WHIPHAM.

Bacteriological findings in cerebro-spinal fluid in poliomyelitis ('*Journn. Amer. Med. Assoc.*,' 1916, LXVII, *p.* 1437).—**J. W. Nuzum** makes a further report on cultures obtained from the cerebro-spinal fluid in cases of poliomyelitis. In forty-five out of fifty cases studied a minute micro-organism, germ-positive, and arranged in pairs, clumps or short chains was obtained on media composed of ascites dextrose broth, ascites broth, human ascibic fluid, and ascites broth to which a sterile piece of rabbit's kidney was added. The organism when injected into monkeys, young lambs, and rabbits, either intraperitoneally, intravenously, or intracerebrally has produced flaccid paralysis of the extremities, and in a considerable number of cases the typical histological change in the central nervous system which characterise the disease in man. Paralysis has been produced by cultures in the fifth generation and by subcultures two weeks old. The same micro-organism has been recovered in pure culture in nearly every instance from the cerebro-spinal fluid and from the central nervous system of the paralysed animals at necropsy, and in sections of their spinal-cord and medulla the organism has been visible in the grey matter in pairs and short chains. The organism appears to exist in the cerebro-spinal fluid for a considerable time as it was isolated in two cases fifty-nine and sixty days after the onset of the paralysis. T. R. WHIPHAM.

Laboratory aids in the diagnosis of poliomyelitis ('*New York Med. Journ.*,' 1916, CIV, *p.* 167, and '*Arch of Ped.*,' 1916, XXXIII, *p.* 595.—**J. B. Neal** The most trustworthy and valuable aid in the diagnosis is the examination of the spinal fluid. This is increased in amount, generally clear or only slightly cloudy, showing a slight to moderate increase in albumin and globulin, a good reduction of Fehling, and a varying cellular increase, mostly mononuclear. Sometimes there are large mononuclear cells which Neal believes to be in a measure characteristic of poliomyelitis. There are two rare types, one is the hæmorrhagic and the other the syndrome of Froin, in which the fluid has a characteristic yellow colour and coagulates spontaneously. The fluid of purulent meningitis shows a varying degree of cloudiness, a greater increase of albumin and globulin, and a poorer reduction of Fehling. The cells are 90 per cent. polymorphonuclears, and the organism is generally found. In tuberculous meningitis the fluid is clear and increased in amount. The albumin and globulin are increased. The reduction of Fehling's solution may be good. The cellular element is less than in poliomyelitis, but, like the latter, it is a mononucleosis as a rule, though in some stages it may be polymorphonucleosis. J. PORTER PARKINSON.

Infantile paralysis: diagnosis, prognosis, prophylaxis, and medical treatment ('*Med. Journ. of Australia,*' 1916, II, *p.* 426).—**A. J. Wood.**—The chief difficulty in diagnosis occurs before there is any paralysis. The most valuable procedure is lumbar puncture and examination of the fluid which is under high pressure, usually clear, and often shows on standing a fibrin web formation. There is a slight or moderate increase of albumin, globulin, and cells. Reduction of Fehling's solution is rapid. The cloudy poliomyelitic fluids present a polymorpho-nucleosis which is usually 60 per cent. but may reach 90 per cent. As a rule 80 per cent. of the cells are mono-nuclears. In some cases the fluid may be yellow, coagulating spontaneously. In tuberculous meningitis, the fluid closely resembles that of poliomyelitis, and if no tubercle bacilli are to be found, only animal inoculation will clear up the diagnosis. *Differential diagnosis*: Two conditions accompanied by paralysis in infants should be remembered (1) Scurvy. This rarely occurs under 9 months of age, and the condition of the gums and history of the diet are distinctive. (2) Syphilitic epiphysitis. This is usually seen a few weeks after birth. Rapid recovery occurs under mercury. Diphtheritic paralysis and peripheral neuritis may also cause errors. *Prognosis*: The tendency is towards recovery, In epidemics the percentage of deaths varies from 5 to 20 per cent. It is worse for adults, adolescents, and older people, than for children between 2 and 11 years. Only a few are left hopelessly crippled. Improvement goes on from year to year. Marked pain and hyperæsthesia have been pronounced in cases of severe paralysis which has cleared up with difficulty, or failed to disappear. *Prophytaxis*: Isolation is of the utmost importance. Antiseptic mouth washes, gargles, eye douches, and nasal sprays and absolute cleanliness of the hands should be carried out by all in contact with the patients. *Treatment*: Lumbar puncture, sometimes several times repeated, often relieves the signs of hydrocephalus. Normal horse serum and normal human serum in 15 minim doses, administered intrathecally, blood serum from convalescents, immune serum from monkeys who have had the disease, have all been tried, with varying results. Epinephrin intraspinally (2 ccm. of a 1 in a 1000 epinephris solution every six hours) has been tried by Meltzer. Hexa-methylanin is the only drug that has shown itself of any use in monkeys, and the results from it are slight. F. R. B. ATKINSON.

Nervous and Mental Diseases.

Potassium permanganate test in cerebro-spinal fluid ('*New York Med. Journ.*,' 1915, CII, *p.* 1052).—**A. I. Rubenstone.** In cases of meningeal irritation without true meningitis the microscopic and chemical examinations of the fluid give very doubtful results. In such cases the writer considers the corroborating value of this test. In true meningitis the cerebro-spinal fluid turns potassium permanganate solution bright yellow almost immediately, but in simple cases of meningeal irritation the reagent is decolourised only after two or three minutes, the length of time required being an index of the severity of the process present. Normal cerebro-spinal fluid produces no change in five minutes. J. PORTER PARKINSON.

The Lange gold chloride reaction in the cerebro-spinal fluid of infants and young children ('*Am. Journ. Dis. Child.*,' 1915, IX, *p.* 17).—**C. G. Grulee** and **A. M. Moody** carried out this test in eighteen cases of congenital syphilis, in pneumococcus meningitis, septic meningitis, hydrocephalus, cretinism and other conditions, cerebral and otherwise. Their conclusions were as follows: (1) In congenital syphilis the cerebro-spinal fluid reacted to the colloidal gold chloride solution always in the lower dilutions, and with a marked degree of regularity, strongest in the dilutions 1 : 40 and 1 : 80. (2) In a small group of cases of congenital syphilis the reaction was similar to that of paretic dementia. (3) The reaction obtained in congenital syphilis was most nearly approached by conditions which showed slight inflammation of the meninges or brain, and were not likely to be confounded with congenital syphilis. (4) The reaction in tuberculous meningitis was found most intense in dilutions of 1 : 160 and 1 : 130. The more rapid the course the more apt was the reaction to occur in the higher dilutions. (5) The statistics showed that the gold chloride reaction was of value only as an aid to diagnosis (*cf.* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1915, XII, *p.* 254).

J. D. ROLLESTON.

On cholesterin and urea in the cerebro-spinal fluid of sick children ('*Riv. di Clin. Pediat.*,' 1915, XIII, *p.* 736.)—**L. M. Spolverini** gives tabular results in 63 cases. With regard to the cholesterin content the results in an overwhelming majority were negative. In the few cases where it was present it was met with in very small quantities, from a maximum of 0·050 grm. per 1000 c.c. to a minimum of 0·036 grm. As a rule it is absent in diseases during the acute stage (tuberculous and meningococcic meningitis), including those not localised in the central nervous system (broncho-pneumonia, pneumonia); the exceptions are few and rare in tuberculous meningitis, there being one exception only out of 15 cases. The few cases where it was present, even in small quantities, were chronic forms, notably hydrocephalus and rickets, and in the periods of resolution or convalescence of some acute diseases, notably broncho-pneumonia. Intraspinal or intra-ventricular injection of anti-meningococcic serum caused no variation in the amount of cholesterin before or after treatment. With regard to amount of urea, this was small, even in acute diseases, varying within the normal limits of 0·15 grm. to 0·50 grm. Only in one instance did it rise to 1 grm., a case of exacerbation of chronic nephritis. Further the experiments showed clearly that as the disease became more serious the amount of urea was proportionately increased, even reaching double that found in the first analysis. Hence observations of this kind are of practical utility from a prognostic point of view. It was not possible to trace any special relation between the quantity of cholesterin and that of urea.

VINCENT DICKINSON.

A method of estimating the amount of reducing substances in the cerebro-spinal fluid ('*Riv. di Clin. Pediat.*,' 1915, XIII, *p.* 515).—**A. Bardisian** recommends the use of methylene blue to estimate the amount of glucose present in the cerebro-spinal fluid, which has a diagnostic importance since it is said to be diminished or almost absent in meningitis, increased in cerebral hyperidrosis, diabetes, epilepsy, etc. The amount of fluid obtainable is often not sufficient to admit of the estimation by Fehling's method. In using a solution of 1 in 10,000, a beaker of 250 c.c. is taken, filled with water, which is kept at the boiling point. Into this is plunged a glass tube, previously washed with distilled water, of the same length as the beaker. One c.c. of the cerebro-spinal fluid is poured into it and then, only with the object of increasing the volume of liquid to render the reaction more evident, 2 c.c. of distilled water are added and finally a few drops (5–10) of normal soda solution or carbonate of potash, and lastly from a graduated pipette drops of the methylene blue solution are added. Each drop is discoloured and the fluid remains perfectly clear, but after a short time, according to its richness in reducing substance, the drops are no longer discoloured and the operation is completed as soon as the mass of fluid is slightly stained blue. The author found that 1 c.c. of a 1 per cent. glucose solution corresponded to 2·50 c.c. of methylene blue solution 1 in 10,000. Hence by a simple calculation from the quantity of methylene blue used, the quantity of reducing substance in terms of glucose can be found. For example, if 2 c.c. methylene blue solution were used the cerebro-spinal fluid under examination would be equivalent to an amount of reducing substance corresponding to grm. 0·80 per cent. of glucose, since $2 \cdot 50 : 1 = 2 : x$. The methylene blue solution must possess the following properties: (1) It must not be discoloured by the addition of hydrochloric acid; (2) it must be changed to a yellowish-green by sulphuric acid; and (3) it must be decolourised by zinc and restored to its blue colour by the addition of perchloride of iron. The author controlled the results arrived at by this reaction with those obtained by Fehling solution both in solutions of glucose and in cerebro-spinal fluid, and found that they were in perfect agreement. VINCENT DICKINSON.

Meningitis serosa (*'Dub. Journ. Med. Science,'* 1916, I, *p.* 1)—**T. Gillman Moorhead.**—It has for long been recognised by clinical observers that during the course of acute infective diseases meningeal symptoms may arise, and as a rule these symptoms have been regarded in a rather vague way as being caused by a vascular congestion of the cerebral meninges brought about by the toxins of the bacteria of the disease in question. Accumulating evidence in various infections seems to bear out this view, and more particularly to suggest that the congestion is often accompanied by an actual serous exudate, the presence of which may lead to acute symptoms of increased intracranial pressure. They are, in fact, cases of serous meningitis. Clinically a large variety of cases is met with, but they may be divided into (1) acute and (2) chronic types. In all cases some toxin—bacterial or otherwise—can be proved to be present. In Group 1 a most important type is that associated with middle-ear diseases and resembling in many respects cerebral abscess. Another type includes the large group of cases associated with infectious diseases to the more acute forms of which the term meningism is often applied. The histories of two cases in children are quoted. Case 1, a girl, aged 13 years, was found to be suffering from severe optic neuritis. She was a well-developed child, but was a little slow in answering questions, and her memory was rather defective. In addition to the optic neuritis there was distinct nystagmus, but no other physical deformity except complete absence of knee-jerks. She ate well and her bowels acted normally. The urine and blood were quite normal, and both a tuberculin and a Wassermann test proved negative. A provisional diagnosis of intracranial tumour was made. For the first couple of days the optic neuritis appeared to increase, and trephining was seriously contemplated with a view to preserving her sight, although no growth could be localised. However, after this increase the neuritis became stationary, and later subsided, and after a lapse of six weeks the sight and the appearance of the fundus were both perfectly normal. The nystagmus persisted for about a week, but up to the present date (almost three years after she was first seen) the knee-jerks have been completely absent. The interest in this case consists in its extreme resemblance to a case of intracranial tumour. Operation had almost been decided on with a view to saving the child's sight, when a slight functional improvement in the vision was observed. The improvement persisted, and bit by bit it became plain that the case was not one of intracranial growth, but rather a delayed serous meningitis due in all probability to an influenzal attack which she had a month previously. Case 2 was a girl who had become unconscious two days previously. She had been quite well up to ten days before, when she got an attack of acute tonsillitis accompanied by general febrile disturbance and pain in the limbs. This attack lasted only for a couple of days and she then returned to her ordinary life, but suffered from headaches and did not feel very well. Two days before he saw her she woke with a bad headache, vomited after breakfast, talked in a rather confused way, and said her sight was dim. She, however, insisted on getting up and going out, although she was told that her colour was yellowish and that she might be getting jaundice. After a short walk she returned home, with difficulty got upstairs, got into bed, and almost immediately became quite unconscious. Two days later he found her deeply jaundiced and absolutely unconscious. Her pupils were dilated but reacted to light; her head was retracted and her neck stiff; the legs and arms were flaccid and the knee-jerks were obtained with difficulty; the breathing was sighing, and her pulse slow; her sphincters were completely relaxed and she swallowed only with difficulty. At first sight the case seemed possibly one of acute yellow atrophy of the liver, but analysis of a small catheter specimen of urine did not bear out this view. There was, moreover, no diminution in size of the liver. Bacteriological and other examinations of the blood showed nothing abnormal. Treatment was without the least apparent result, and on the next day, after a bad night, the patient's condition seemed extremely serious. The muscles of the back were now rigid and there was a tendency to backward arching. On lumbar puncture the cerebro-spinal fluid, which spouted out under apparently great pressure, was quite normal except that it gave no reduction reaction—a point that has been noticed in connection with similar cases. Shortly after the puncture the symptoms began to improve; breathing became easy and the pulse more regular, and in a few hours slight consciousness returned. Within twenty-four hours she was able to talk a little and to ask for nourishment, and from that on recovery, though somewhat slow, was uneventful. The case seems to have been one of serous meningitis, and probably both jaundice and meningitis were infective in origin and due to the same cause. Under Group 2 are included cases of chronic hydrocephalus, in which no toxic element can be discovered, and cases in which the presence of some toxin is capable of demonstration.

J. ALLAN.

Streptococcic meningitis (*'Journ. Amer. Med. Assoc.,'* 1915, LXIV, *p.* 2054).—**W. E. Leighton** and **J. A. Pringle** report two cases of streptococcic meningitis, one of which was a girl, aged 8 years, who was admitted into hospital with signs of mastoiditis. Evidence of meningitis supervened three days later. Lumbar puncture was performed and the cerebro-spinal fluid was found to contain many leucocytes and streptococci. Lumbar laminectomy was performed and the spinal canal was drained. A good recovery was made in this case as in the other, a man, aged 65 years, which was treated in a similar manner.

T. R. WHIPHAM.

Cerebro-spinal meningitis from streptothrix (*'La Pediatria,'* 1915, XXIII, *p.* 711).—**G. Rutelli** describes the case of a girl, aged 6 months, admitted with symptoms of cerebro-spinal meningitis. Ten c.c. of fluid obtained by lumbar puncture was turbid and formed dense white clots after a few minutes. The microscope showed numerous white cells, the neutrophile polynuclear leucocytes being prevalent, several erythroblasts and abundant filamentous organisms resembling streptothrix. An emulsion of this organism injected into the peritoneum of some white mice caused death in three days. The patient's blood did not agglutinate them. A second lumbar puncture gave identical results. Urotropine was given in doses of 1 grm. daily. The temperature continued irregular and intermittent but never rose above 38·5° C. The sequel of the case is unknown as the parents removed the child from the hospital.

VINCENT DICKINSON.

Multiple sclerosis as a complication of whooping-cough (*'Riv. di Clin. Pediat.,'* 1915, XIII, *p.* 773).—**G. Zamboni.**—A girl, aged 5½ years, was attacked with whooping-cough which ran a regular course for 4 months and then became more violent, the paroxysms being accompanied by hæmorrhage from the mouth and nose. After a further 3 months psychic disturbances, scanning speech and difficulty in walking were noticed. Other symptoms characteristic of multiple sclerosis then developed. Treatment with iodides resulted in an increase of more than 1 kilo in weight in a month, after which the patient left the clinic. VINCENT DICKINSON.

Multiple abscesses of the brain in infancy (*'Arch. int. Med.,'* 1916, XVII, *p.* 591).—**J. B. Holmes** records a case in a male infant, aged 23 months. The symptoms were more of chronic internal hydrocephalus, but the phenosulphonephthalein test showed that chronic internal hydrocephalus of the communicating type was not present. The condition found postmortem resembled closely that of multiple pyæmic abscesses of the left hemisphere. It was not possible, however, wholly to exclude multiple tubercles which had undergone puriform softening. Microscopically the case was noteworthy in the unusual number of Gluge's corpuscles.

J. D. ROLLESTON.

A case of ependymitis in a child (*'New York State Journ. Med.,'* 1916, XVI, *p.* 148).—**A. C. Snell** and **J. Raby** report this case in a boy, aged 11 years. The diagnosis of ependymitis was made: (1) Because the symptoms present were those described by Delafield. (2) Because tuberculous meningitis was ruled out thus: (*a*) Patient lived; (*b*) cell count too low; (*c*) no tubercle bacilli found; (*d*) negative von Pirquet. (3) Because syphilis was ruled out thus: (*a*) Negative Wassermann on blood and spinal fluid; (*b*) no evidence of clinical history of it. (4) Because the eye conditions evidently were caused by pressure of the fluid, as the subsequent improvement after tapping proved. (5) Because there was no evidence or clinical history of any of the acute exanthemata or of typhoid fever. The point of particular interest in this case was the fact that a single lumbar puncture was directly followed by a complete cure of all symptoms with full preservation of perfect visual acuity. The preservation of perfect vision was due in large measure to the early diagnosis, and to the prompt relief of the intra-ventricular pressure, which had not remained for sufficient time to cause secondary changes within the eyeball. J. ALLAN.

A case of brain tumour in an infant (*'New York State Journ. Med.,'* 1916, XVI, *p.* 261).—**G. A. Marion** gives in detail the clinical history of a male infant, aged 1½ years, in whom after death a tumour about the size of an English walnut was found between the two optic thalami and was declared to be a glioma. The most striking features in the case were: (1) Absence of cells at all stages. The length of illness also excluded tuberculous meningitis; (2) the misinterpretation of radiographs—mistaking a normal line of ossification for a fracture; (3) the apparent discrepancy in the two examinations of the eye grounds. Early in the course of the disease the intracranial pressure became great, the jagged edges of the sutures of the cranium held fast, and œdema of the optic discs appeared. Later, the pressure increasing, the grip of the suture lines was broken, the amount of pressure relieved and the choked disc disappeared. J. ALLAN.

Tumours of the third and fourth ventricles (*'Journ. Amer. Med. Assoc.,'* 1916, LXVII, *p.* 1423).—**P. Bassoe** reports four cases of cerebral tumour in children. CASE 1.—A boy, aged 14 years, with rather precocious genital, and hairy development suggesting hyperpinealism. Two months previous to admission he had for a time suffered from headaches. Subsequently he suddenly became blind and had an epileptiform attack. He was drowsy and apathetic; the pupils were equal, dilated and inactive; the ocular movements, especially on the left, were limited, and there was bilateral choked disc with hæmorrhages. The gait was unsteady with a tendency to fall backwards, and all the extremities were ataxic. The facial muscles were weak, and on the left side pain sense appeared to be diminished. The knee-jerks were absent as was the left ankle jerk no Babinski's sign. A diagnosis was made of tumour in the region of the corpora quadrigemina or pineal body, although a cerebellar site could not be excluded. Post-mortem.—A tumour, which proved to be apparently a glioma, was found filling the third ventricle and causing a bulging in the region of the pineal body. CASE 2.—A boy, 2½ years old, was taken ill ten weeks previously with persistent vomiting, slight fever and headache. Strabismus and nystagmus had been noticed but there were no convulsions. There was slight bilateral papillitis; no Kernig's sign; no rigidity; knee and ankle jerks weak, and doubtful Babinski's sign on the left. The cerebro-spinal fluid escaped under pressure on lumbar puncture and was cloudy with increase of both polymorphonuclear and mononuclear cells, chiefly the former. No organisms were found. As tuberculosis was suspected a guinea-pig was inoculated, but it did not develop the disease. Slight rigidity of the neck, and on the left a doubtful Kernig's sign and a distinct Babinski's followed, though the headache was less and the vomiting had ceased. The cerebro-spinal fluid gave a weakly positive Wassermann and Lange gold tests. Under mercurial treatment the patient continued to improve, and, though the blood gave a weakly positive Wassermann, the Lange test was negative. Headache, however, returned with marked ataxia and frequent vomiting. Relief was afforded by lumbar puncture, the Wassermann reaction being now negative, but the patient died suddenly without further symptoms. At the necropsy a large glioma was found in the fourth ventricle breaking through and almost surrounding the pons. CASE 3.—A girl, aged 5½ years. Soon after an attack of measles at the age of 4, she began to stumble and to turn the eyes to one side. Headaches and optic neuritis developed, and cerebellar tumour was diagnosed. The child was drowsy; pupils equal and reacting normally; tendon reflexes increased; legs spastic with bilateral ankle clonus and Babinski's sign. Operation was advised, but the patient died before the dura was opened. Post-mortem.—A small glioma was found in the upper part of the fourth ventricle with marked hydrocephalus. CASE 4.—A boy, aged 5 years, began to suffer from headache six months previously; he grew fat and the genitals became smaller. A tendency to stumble and papillitis supervened. The child rapidly became blind and two convulsive seizures occurred. The Wassermann test was negative in both the blood and spinal fluid, the latter being also free from cells. The patient was very weak; pupils equal and dilated; rotatory nystagmus upward and to the left; apparently slight paresis of right side of face and right arm; knee jerks absent, ankle jerks slightly increased, bilateral Babinski's sign; paresis of leg muscles. Right subtemporal decompression was performed, which was followed by general twitchings, hyperpyrexia and death. A tumour, said to be a small round-cell sarcoma, was found filling the fourth ventricle and causing hydrocephalus. Two other cases of glioma in the fourth ventricle, accompanied by mental symptoms in adults, are also recorded.

T. R. WHIPHAM.

Spastic paralysis in children (*'New York Med. Journ.,'* 1916, CIII, *p.* 495). — **J. Grossman.** — Intracranial hæmorrhage may occur during delivery, prolonged or apparently normal. In the majority of cases the blood may be absorbed without producing symptoms. The hæmorrhage takes place at the vertex about the two paracentral lobules and may involve one or both convexities. The symptoms do not always point to brain disease. There may be severe asphyxia, very feeble respiration and a fall of temperature, and perhaps convulsions. In other cases there are chiefly convulsions or spasms. In some cases interference with dressing or bathing may be the first evidence of spastic paralysis, in others delay in sitting and walking may be seen. The possibility of syphilis as a cause must always be respected. Subtemporal decompression is useful when the ophthalmoscope shows signs of increased intracranial pressure. J. PORTER PARKINSON.

Acute cerebellar ataxia in children (*'Am. Journ Med. Sci.,'* 1916, CLI, *p.* 24).—**J. P. C. Griffith** records a case in a girl, aged 5 years, in which the symptoms developed rapidly without discoverable cause unless possibly she had suffered from influenza. The other noteworthy features were the very uncommon degree of nystagmus, the ataxia of the extremities, disturbance of the sensorium, affection of speech, slight increase of reflexes and complete recovery within a month from the onset. Griffith has collected 17 similar cases from the literature. J. D. ROLLESTON.

A case of hydrocephalus (*'New York State Journ. Med.,'* 1915, XV, *p.* 408).—**A. W. Armstrong** reports this case in a child, aged 7 months. The infant was delivered by means of forceps, weighed 7½ lbs. at birth, and nothing abnormal was then noted. The mother's history showed that she had been subject to some kind of convulsions, probably not epileptic. The father had a negative history with the exception of specific urethritis during the year previous to the baby's birth. When the baby was four days old he refused to eat and regurgitated some curds, the stools were green in colour and contained curds; his weight decreased to 7 lbs. and the rectal temperature was 99·8° F. On the fifth day he cried almost constantly and the temperature rose to 101·6° F. The symptoms of intestinal infection continued until the fourteenth day, when symptoms of meningitis developed. Opisthotonos was the first symptom, and during the next three days frequent general convulsions developed, becoming almost continuous on the eighteenth day. Following this the baby seemed to improve. When about five weeks old he became drowsy, sleeping almost constantly for nearly seven days, after which it was noticed the head began to enlarge out of proportion to the body. This has slowly progressed and the maximum circumference of head at age of 7 months is 26·75 in. Wassermann reaction and luetin test negative. The child had meningitis following intestinal infection at a time when there was no apparent abnormality of the skull. It seems quite probable that at this time something happened to obstruct the outflow of the cerebro-spinal fluid and that the case is one of internal hydrocephalus of the obstructive type. In making the pheno-sulphonephthalein test by injecting the colouring material into the ventricle and allowing the cerebro-spinal fluid from a lumbar puncture to drip into an alkaline solution, none of the material was recovered in a period of twenty minutes, thus indicating the absence of free communication between the ventricles and the spinal canal. The author does not consider the case a favourable one for operation.

J. Allan.

Giant hydrocephalus (*'Los Progresos de la clinica,'* 1916.)—**C. S. de los Terreros** records a case in a female infant, aged 3½ months, in whom hydrocephalus developed at the end of the first month and gradually increased. The maximum circumference of the skull was 55½ cm. as compared with 45 cm., the normal measurement at the end of the first year (Vargas). The measurement from one mastoid process to the other was 35 cm. The child had never shown any symptoms such as contractures or localised or general convulsions, but had taken the breast well and appeared intelligent. There was no history of syphilis in the parents and the Wassermann and Nonne-Apelt reactions in the cerebro-spinal fluid were negative.

J. D. Rolleston.

Sensory disturbances in diphtheritic paralysis (*'Jahrb. f. Kinderheilk.,'* 1915, lxxxii, *p.* 476).—**Z. Barabás** records nine cases in children aged from 2½ to 9 years, to show that sensory disturbances consisting in either diminution or complete loss of sensibility to pain with preservation of other forms of sensibility frequently occurs in diphtheritic paralysis. This loss is only temporary, and, with improvement of the clinical symptoms, sensibility to pain gradually returns. No conclusions as regards prognosis could be drawn from these sensory changes.

J. D. Rolleston.

Chorea (*'Glasg. Med. Journ.,'* 1915, i, *pp.* 259, 341, 414).—**Ivy MacKenzie,** after some remarks on the nomenclature of the disease, discusses the ætiology. A review is given of a series of sixty-four cases of chorea, the cases being grouped as follows: (1) Average types of chorea; (2) chorea associated with pregnancy; (3) chorea associated with epilepsy; (4) chorea associated with organic brain disease; (5) chorea associated with neurosis; (6) chorea associated with mental deficiency or dementia. Short clinical histories of two or three cases in each group illustrate the different types. Among the points discussed are: (*a*) Chorea and paralysis; (*b*) rheumatism and chorea; (*c*) cardiac disease and chorea; (*d*) nervous disease and chorea; (*e*) the pathology of chorea; and (*f*) chorea as a functional disease. Regarding treatment the author points out that, like so many other diseases, the treatment of chorea has developed along empirical lines, associated often in an accidental manner with some current theory as to the origin of the disease. There can be no doubt, for example, that sodium salicylate and aspirin, the most useful drugs in rheumatism, prove efficacious in some cases of chorea. The rheumatic origin of chorea was undoubtedly responsible for the use of these drugs, but there are cases of chorea in which there is not the slightest evidence of rheumatism where aspirin has a very beneficial effect. Antipyrin, in large doses, is also foun to have good results in some cases, and, so far as drug treatment is concerned, the author has obtained the best results with aspirin and antipyrin. In some cases arsenic was administered in the form of Fowler's solution, but the results cannot be regarded as convincingly favourable. In some cases treated with salvarsan there was undoubtedly a good effect, and salvarsan has been found to have a very stimulating effect on the nervous system in many forms of functional nervous disorder. In the more violent cases hyoscine had to be used to produce rest, and in some adult cases, where there was severe mental excitement, par aldehyde in two-drachm doses was given to produce sleep. The administration of drugs, however, covers only a very small part of the treatment. Physical and mental rest is necessary; baths at 99° to 100° F. for a quarter of an hour should be given twice daily. Patients should have light diet and plenty of milk to drink, and the bowels should be kept well regulated with calomel and mild salines. In those cases which have recovered from an attack of chorea the surroundings should be so ordered as to render it unlikely that a recurrence should take place. Prophylaxis is important. J. ALLAN.

Chorea (*'New York Med. Journ.,'* 1916, CIII, *p.* 1018).—**M. Grossman**, after discussing the symptoms, deals with the treatment as follows: (1) Hygienic: Bed is necessary in all acute cases. Freedom from any mental stress or excitement is needed. Tepid douches or packs may calm excitement. (2) Medicinal: Salicylate is indicated in all cases with a rheumatic history. Arsenic is valuable. Bromides and chloral are useful when there is marked motor unrest. (3) Re-education: Breathing exercises using chiefly the diaphragm. Passive movements of the limbs. Later active movements with slight resistance. Re-education of movements is valuable. The author attaches great importance to these various exercises which he describes in much detail. J. PORTER PARKINSON.

Causes of chorea (*'Arch. de Méd. des Enf.,'* 1915, XVIII, *p.* 517).—**J. Comby** insists that a slight acute encephalitis is the anatomical substratum of this disease. Out of 39 cases, in 6 evidences of hereditary syphilis were forthcoming, 7 of the 39 gave positive Wassermann reactions, 4 gave feeble or doubtful reactions, and 27 gave negative reactions. Clinical results do not give any satisfactory proof that the disease is syphilitic. Twenty-four of the 39 reacted positively to von Pirquet's test, but this was only a coincidence as tuberculosis is found in over two-thirds of hospital post-mortems. Evidence of articular rheumatism was only present in 6 cases and endocarditis in 8. In one case in every three evidences of rheumatism are forthcoming, an exactly similar result to that obtained for syphilis. Rest, milk diet, and arsenic in gradually increasing doses are strongly advocated.
CHRISTOPHER ROLLESTON.

An analysis of sixteen cases of chorea and motor tic (*'Edin. Med. Journ.,'* 1915, II, *p.* 333).—**J. E. Middlemiss** here uses the term "chorea" to connote the presence of sudden inco-ordinated and involuntary movements of a purposeless character, partial or generalised in their distribution, and which cease during sleep. He discusses his cases under the headings: (1) Acute chorea; (2) chronic chorea; (3) motor tic. The most predominant feature noted in this series was the existence in the majority of the cases of a neuropathic basis for the affection, as evidenced by the co-existence of other neuroses or abnormalities in the nervous system, either in the individual case or in other members of the family. It is noteworthy that in only four cases was there an undoubted history of rheumatism. There was a definite history of tuberculosis in six members of the series, all of them being cases of acute chorea. The author is of opinion that the evidence adduced would seem to assign to the neuropathic constitution a preponderating *rôle* in the ætiology of chorea and allied disorders, but discloses strong reasons for differentiating, clinically and pathologically, between the acute type of short duration and the forms associated with states of cerebral subevolution and degeneration, whether these be of the primary neuronic type or sequential to vascular or inflammatory lesions.

J. Allan.

Infantile tetany (‘*Dub. Journ. Med. Science,*’ 1916, i, *p.* 8).—**Spencer Sheill** points out that tetany is an affection more commonly met with in children than in adults, and this is what one might reasonably expect when the instability and lack of development of the infant's nervous system are taken into consideration. After discussing the predisposing and exciting causes the author records the histories of three cases. It is a fairly generally accepted fact that tetany is most commonly associated with rickets, laryngismus, enteritis, or teething. Convulsions are by no means uncommon in the last two ailments. In tetany there is no loss of consciousness, and the spasms give every indication of being painful to the infant as judged by the facial expression and by the scream. Trousseau's sign is usually present —the muscles being in such an irritable condition that pressure over a nerve trunk will throw the corresponding group of muscles into a state of spasm. Tetany has been mistaken for cerebro-spinal meningitis, but in the former cerebral symptoms, fever and vomiting, are absent. Tetany *per se* is seldom fatal. In concluding, the author asks, “Would it not be safer if we dropped the word tetany and classified such cases as a form of convulsion—without loss of consciousness—occurring as the principal symptom of an underlying but often undiagnosticated disease?”

J. Allan.

A case of so-called “tetanism” (‘*Edin. Med. Journ.,*’ 1916, i, *p.* 51). —**J. S. Fowler** reports this case in a male infant, aged 3 weeks. He was the fourth child, the others being healthy. Soon after birth he was noticed to have a “cold in the head.” He had a fit on the twelfth day and a rash appeared on the face on the fourteenth day. When 3 weeks old he was well developed and fairly nourished; weight 7 lb. 14 oz.; head and fontanelle normal; lips markedly fissured; a coppery papular rash present round the mouth and on the buttocks; slight nasal discharge, breathing snuffling; cry hoarse. A fairly large umbilical hernia was noted, and the umbilical wound had not healed, but formed an ulcer about the size of a halfpenny, surrounded by an inflamed zone of skin. On the skin near by was a smaller ulcer covered by a scab. When at rest the infant was extremely rigid, and lay with the arms firmly flexed against the chest and the hands tightly clenched. The back was not arched, nor the head drawn back, but the legs were extended and the toes curled in towards the soles. When he was moved in any way the spasm increased to a marked degree. It sometimes spread to the facial muscles, causing clenching of the jaws and some pouting of the lips. The legs were more forcibly extended and the toes splayed out fanwise; occasionally slight twitching of the clenched hands and rigid arms occurred. There was no opisthotonos; sucking was somewhat impeded by the cracks and excoriations of the lips, but did not produce trismus. Knee and Achilles jerks and abdominal reflex present; plantar reflex extensor; sucking reflex ("mouth pouting") present; pupils equal, with normal reaction; occasional slight internal strabismus of left eye. Examination of the discharge from the umbilicus for the bacillus of tetanus was negative. The infant improved somewhat as regards the hypertonicity, but did not thrive well, and apparently succumbed to malnutrition some weeks later. The case was chiefly interesting from the diagnostic point of view. The infant was obviously syphilitic, but, in connection with the remarkable hypertonicity, tetanus neonatorum and diplegia had to be considered. The association of spasm and a septic umbilical wound in a young infant suggested the former; but (1) the very slight amount of trismus (not enough to interfere with swallowing); (2) the absence of characteristic pouting of the lips; (3) the absence of implication of the respiratory muscles; (4) the preponderating affection of the limbs; and (5) the chronic course of the disease, negatived this diagnosis. On the other hand, the gradual improvement which took place, and the very marked increase of spasm which resulted from any movement, showed that the case was not one of ordinary diplegia. The author thinks that the case illustrates fairly well some of the characteristic features of exaggerated hypertonus, myotonia, or "tetanism": (1) The hypertonicity (spasm) is remittent, but never altogether disappears; (2) movements cause a marked temporary increase of spasm; (3) with improvement in the general condition, the hypertonicity diminishes and ultimately disappears. A photograph of the infant is appended. J. Allan.

The unconscious mental life of the child ('*Lancet,*' 1916, I, *p.* 733).—**E. Jones,** at a meeting of the Child Study Society, said three critical questions arose in such a study: (1) The extent of the justification in transferring the conclusions based on the abnormal to the normal; (2) the value of the examination of the adult mind as a basis for the study of the mind of the child; (3) the extent of the reliance on the psycho-analytic method of research. The last of these he did not deal with. In reference to the first question, the differences between the working of a normal and of a neurotic mind were only those of degree; disease added no new element, though the grouping of forces might be altered and the relative perspective modified. On the second question, he said the saying "The child is father to the man" was taken seriously by the psycho-analyst. The unchanged form of the infantile mind was buried in the depth of the unconscious, constituting its characteristic. In the psycho-analytic sense the expression "unconscious" meant processes without the conscious *ego*, but dynamically active in the production of external manifestations; those of high significance to the personality, and endowed with certain attributes, sharply distinguishing them from the familiar type of mental function. Many of the child's thoughts could not be communicated because he was unable even to formulate them. From the beginning the child was protected from painful stimuli by the immediate gratification of his wants. There were two clearly marked stages in mental development—the illusory and the actual—and these were always at work. The control of the primary system of thought by the secondary remained imperfect throughout life. In reference to the question of sexuality in children, there existed a strong tendency to artificially restrict the conception of sexuality. It was ridiculous to suppose the sexual life to be non-existent until it took definite form at puberty; its earlier manifestations were tentative and preparatory. Later there came a process of refinement and the elimination of the discarded elements. The unconscious was naturally unmoral, because it dated from a period preceding knowledge of good and evil, and had remained impervious to such knowledge. All that could be done was to modify the manifestations of the unconscious when they merged into the conscious. Much harm could be avoided by putting into practice some of the elementary principles of medical psychology; there was too much repression of tendencies rather than a seeking to utilise those energies and tendencies for useful social purposes.

J. Allan.

Neurotic manifestations in children (*'Med. Record,'* 1916, LXXXIX, *p.* 361).—**A. Stern** describes a case of a girl suffering from a functional neurosis (hysteria), of a boy suffering from a neurosis frequently diagnosed as chorea, but not correctly so, and of a child congenitally mentally defective, who suffered from constant states of fear and would go nowhere unaccompanied with his mother. The treatment in all these cases was to remove the cause and to produce such a change in the child's condition as would enable him to fit in with his environment.

F. R. B. Atkinson.

Stammering (*'New York Med. Journ.,'* 1915, CII, *p.* 117).—**G. H. Makuen.**—The predisposing cause is probably congenital and often inherited, being an irritable or hyperæsthetic condition of the psychomotor mechanisms of speech, and there is probably a physical basis which may or may not be demonstrated. Bleumel calls it a "transitory auditory amnesia." Stammering has long been supposed to be due to a faulty action of the laryngeal mechanism of speech, but what causes this? The chief trouble is in the cortical centre representing phonation rather than in that representing articulation. The disability exists chiefly in the auditory region of the cerebral cortex. Stammering in some respects resembles aphasia, and has sometimes developed in adult life in connection with aphasia.

J. Porter Parkinson.

Hysterical mutism in a boy (*'Lancet,'* 1916, I, *p.* 1039).—**A. J. Hall** gives the detailed clinical history of a case in a boy, aged 11 years, in whom was illustrated the cumulative effect of repeated psychical shocks, at considerable intervals of time. It is well to bear in mind that the correct diagnosis of these cases, satisfactory as it may be to the medical man, does not always determine their cure. Such cases are most difficult to deal with and are very liable to relapse.

J. Allan.

Available means for research and prevention in mental deficiency (*'New York State Journ. Med.,'* 1915, XV, *p.* 400).—**M. G. Schlapp.**—The available fields of research and prevention of mental deficiency are all social agencies within the community that are dealing in any way with the mental defectives. To carry out effectively a State-wide campaign for State control, it would be necessary to develop a centralised system of diagnostic clinics where the mental status of all suspected cases of mental defect could be scientifically determined and registered. It would also be necessary to provide well-equipped schools and asylums for the treatment and training recommended as a result of that diagnosis. Lastly, there ought to be established completely equipped laboratories at these institutions where the pathological findings could be correlated with the clinical symptoms. With clinics, schools, institutions, laboratories, fully equipped and co-ordinated under centralised State control, it should be possible to begin the work of prevention and research. J. ALLAN.

Mongoloid idiocy (*'La Pediatria,'* 1916, XXIV, *p.* 392).—**M. Provinciali** describes two cases. Both were the offspring of elderly parents, thus lending support to the theory of Shuttleworth and Comby. There was no history of chronic toxic infection during pregnancy. Both presented dystrophic ocular lesions. Thyroid treatment produced no appreciable results except to cure the constipation present. VINCENT DICKINSON.

The ætiology of mongoloid idiocy (*'La Pediatria,'* 1916, XXIV, *p.* 403).—**G. di Giorgio** reports sixteen cases which showed parental syphilis in three cases, tuberculosis in three cases, hypertrophied thyroid in mother in one case, malarial infection during pregnancy in one case, paternal alcoholism in three cases, family neuropathics in four cases, and advanced age of parents in one case. Two cases were improved by thyroid treatment.

VINCENT DICKINSON.

Diseases of Muscles.

A case of congenital desmoid tumour of the rectus sheath in an infant (*'Edin. Med. Journ.,'* 1915, II, *p.* 345).—**D. M. Greig** removed the tumour from the sheath of the rectus abdominis in a female child, aged 1 year and 8 months. The tumour in the abdominal wall was first noticed when she was 8 months of age, and it had slightly increased in size since. It was situated to the right and a little above the umbilicus and formed a round, flattened, densely hard tumour, almost an inch in diameter. The tumour had always remained hard, had never been reducible, and never varied during straining; and it appeared to be within the sheath of the right rectus. The tumour was excised, and the pathologist reported: "The growth is macroscopically a hard fibroma, but on microscopic examination is more cellular than a hard fibroma. Remains of muscle tissue are found among the fibres. The suspicion of sarcoma arose, but was dismissed." Brief references to other recorded cases are appended.

J. ALLAN.

A case of myotonia congenita (Thomsen's disease) in a child (*'Edin. Med. Journ.,'* 1916, I, *p.* 216).—**J. Thomson** reports this case in a boy, aged 6 years, who from infancy had had difficulty in opening his eyes; this was especially seen after a fit of sneezing. He began to walk alone at 14 months; and soon after, his mother found that, when he was told suddenly to go anywhere, he could only move very slowly at first, but in a short time could run as fast as the other children. After a fall he was very slow in rising again. Nothing wrong had been noticed in the movements of his arms or hands, and he was a good writer. The unusually large size of his muscles and especially the thickness of his neck had been noticed. There had been no difficulty with micturition. His intelligence had always been above the average, and he had taken a very good place at school. On examination the patient was found to be a healthy, happy-looking little boy, very well nourished and intelligent. His eyes were normal, but his difficulty in opening them quickly was striking; this difficulty rapidly passed off when the action was repeated several times in succession. There was a similar slowness in the descent of the upper eyelid when he looked down suddenly. This peculiarity also passed off rapidly when the movement was repeated. The voluntary muscles all over the body, including those of the hands, were much larger, and also stronger, than those of a normally well-developed child. The knee-jerks were present, but somewhat difficult to elicit. The thoracic and abdominal organs were normal. A small piece of the left gastrocnemius muscle was excised for examination, and the pathologist reported that the outstanding feature was a marked nuclear increase (sarcolemma nuclear proliferation). The muscle fibres were also slightly enlarged and the longitudinal and transverse striation, so far as could be ascertained, was slightly more evident. Several excellent photographs illustrate the appearances met with in a typical case of this rare disease.

J. Allan.

A family with myotonia, probably intermittent form of Thomsen's disease (*'Amer. Journ. Med. Sci.,'* 1916, clii, *p.* 738).—**N. Toomey** records eight cases, consisting of a father, aged 45 years, in whom the disease began at 14 years; a daughter, aged 18 years, in whom it began at 2½ years; a son, aged 11 years, in whom it began at 5 years; a daughter, aged 9 years, in whom it began at 6 years; a daughter, aged 6 years, in whom it began at 3 years; and three of the father's cousins, who were similarly affected.

J. D. Rolleston.

Congenital familiar paramyotonia. Eulenburg's disease (*'Paris Méd.,'* 1916, vi, *p.* 468).—**A. J. Rayneau** and **A. Boutet** record a case in a soldier, aged 38 years, of this condition, which consists in a transitory muscular rigidity occurring under the influence of cold and damp. His paternal great-grandmother, grandfather, father, two or three aunts, two brothers, and two of his three children, a girl, aged 10 years, and a boy, aged 8 years, showed the same phenomenon in different degrees. The muscles affected were the flexors of the fingers, interossei, and certain muscles of the thenar eminence, as well as the superficial facial muscles, and in a less degree the orbicularis oris and zygomatici. At intervals the masseter and quadriceps cruris were affected for a very short time and in a very slight degree. The symptoms first appeared at the age of 6 to 8 months. At first the muscles of her face alone were affected; but later, when the child began to make more use of his hands, the hand muscles also became involved. None of the muscles showed any hypertrophy. The dominating feature in all was the part played by cold in the production of the symptoms, except in the case of the second child, in which they appeared in the limbs without any change in the external temperature.

J. D. Rolleston.

Congenital and familiar joint hypotonus (*'New York Med. Journ.,'* 1916, civ. *p.* 942).—**H. Finkelstein** describes the case of a child aged 21 months who showed excessive mobility of all the joints without apparent muscular weakness; the mother and grandmother and two uncles had a similar condition when young. There was no interference with motor power nor loss of reflexes, and the electrical reactions were normal.

J. PORTER PARKINSON.

Dystonia musculorum deformans: Oppenheim's new disease of children and young adults (*'Boston Med. and Surg. Journ.,'* 1916, CLXXV, *p.* 383).—**I. H. Coriat** records three cases, aged 9, 29, and 7 years respectively. All the patients were of Russian-Jewish origin. In two the family history was negative, in the third there were definite neurotic tendencies. The first two cases strongly resembled hysterical dysbasia, but without corresponding sensory disturbances; in the third case there was evidence of some organic nervous disease. All showed a peculiar gait, changes in muscular tonicity and rapid onset of the disease, without any pathological reflexes or changes in sensation (BRITISH JOURNAL OF CHILDREN'S DISEASES, 1915, XII, *p.* 284).

J. D. ROLLESTON.

The progressive torsion spasm of childhood (Dystonia musculorum deformans).—(*'Journ. Amer. Med. Assoc.,'* 1916, LXVII, *p.* 1430).—**J. R. Hunt** describes the nature and symptomatology of this condition, and gives an account of six cases which have come under his own observation. The affection which was first described by Ziehen in 1910, and later by Oppenheim, is essentially a progressive torsion spasm of the trunk and extremities, often associated with hypotonia and sometimes with movements of a more clonic and rhythmic character, suggestive of chorea and athetosis. Tremor movements are occasionally noted. The characteristic feature is the twisting and tractile quality of the spasm with the attendant distortion of the trunk and extremities, and the bizarre disturbances of posture, gait, and station. It begins insidiously in one of the extremities, but eventually the muscles of the thigh, pelvis and spinal column are always chiefly affected. Sensation is intact, and there are no symptoms of pyramidal tract involvement. It is probably due to an organic affection of the central nervous system, possibly of the corpus striatum, and is essentially a disease of childhood, but has appeared as late as the seventeenth year. It runs a progressive course and then remains stationary. The face and muscles of articulation are not affected except in the terminal stage, when there is involvement of the muscles of the neck. The torsion movements continue, but are diminished during rest, and are greatly increased by any muscular activity; they cease entirely during sleep. In the later stages there is often a tendency to fixation in the distribution of the spasm which predominates in certain muscle groups, and a paradoxical or reverse phenomenon of dystonia, *e.g.* when the foot is in strong plantar flexion an attempt to extend it only increases the already existing plantar flexion, whereas a voluntary effort in the direction of the already existing flexion produces a reverse movement in the opposite direction. This, the author believes, is a pathognomonic sign. The affection is progressive and incurable, and, with few exceptions, has appeared only in descendants of Russian and Polish Jews.

T. R. WHIPHAM.

A case of myopathy with myotonic reaction (*'Arch. de Méd. des Enf.,'* 1916, XIX, *p.* 532).—**L. Babonneix** records a case of familial pseudohypertrophic myopathy presenting the following remarkable features: (1) A transient galvanotonic contraction localised in the muscles of the antero-external group of the right leg. (2) A persistent galvanotonic contraction in the cervical part of the right trapezius. Cases of this kind are of interest for three reasons: (1) They facilitate an early diagnosis of myopathy, for the myotonic reaction only appears at the onset in apparently healthy muscles. (2) They show that in the early stages the affection is less localised than it appears to be, as alterations of electrical contractility are found in apparently normal muscles. (3) They offer fresh support to the theory which attributes congenital myotonia and myopathy to the same origin. J. D. Rolleston.

Trichinosis (*'Journ. Amer. Med. Assoc.,'* 1916, lxvi, *p.* 504).—**A. R. Elliott** reports the case of a girl, aged 14 years, who developed abdominal symptoms and persistent muscle soreness on movement and pressure after eating an underdone pork chop. A lumbar puncture was performed, and in the cerebro-spinal fluid three actively mobile trichina larvæ were found. No parasites were found in a portion of muscle which was removed. The child made a satisfactory convalescence. T. R. Whipham.

Diseases of Uro-genital System.

Renal aplasia and venæ cardinales resistentes (*'Berl. klin. Woch.,'* 1915, lii, *p.* 487).—**K. Secher.**—A female child, born 6 weeks before term, was admitted to hospital for wasting. Three months before death, which took place at the age of 17 months from broncho-pneumonia, a trace of albumin without formed elements appeared in the urine and persisted till death. Post mortem, the right kidney was much enlarged, but of normal shape. The ureter was very broad and the bladder perfectly normal and symmetrical. The left kidney, ureter, and renal vessels were entirely absent. The left suprarenal was much enlarged. The genitals showed a remarkable asymmetry. The right uterine cornu and Fallopian tube were well developed, and the left uterine cornu and tube very poorly developed. Both ovaries were of equal size. The vagina was normal. Instead of one large inferior vena cava there were two vessels which united above the hilus of the right kidney. The right branch came from the medial side of the right iliac artery, crossed behind it, and ran up on the right side of the abdominal aorta. The left branch started from the medial side of the left iliac artery, passed behind it and then upwards along its side and finally crossed the aorta and united with its fellow of the opposite side. The left half of the thorax was filled by an enormously enlarged heart, the base measuring 5 cm. broad and the length being 6½ cm. The lower lobe of the left lung was partly atelectatic. The myocardium was hypertrophied, but otherwise there were no cardiac anomalies. Secher could not explain the cardiac hypertrophy, but suggests that the enlargement of the left suprarenal may have been associated with an increased secretion of adrenalin.

J. D. Rolleston.

Large congenital hydronephrosis in a child aged 6 weeks (*'New York Med. Journ.,'* 1916, ciii, *p.* 547).—**M. S. Kakels** describes the case of an infant whose abdomen was large at birth and gradually increased in size. Fluctuation and a fluid thrill were obtained. The child was not ill and passed urine naturally. At the transperitoneal operation by anterior incision, 900 c.c. of straw-coloured fluid was removed from the sac, which was a very extended pelvis, to which a kidney about three times the normal size was attached. The ureter was adherent to the sac, and had no dilatation nor stricture, but its entrance to the pelvis appeared to be oblique, and this may have caused the hydronephrosis. J. PORTER PARKINSON.

Multiple ureters with hydronephrosis (*'Journ. Amer. Med. Assoc.,'* 1916, LXVI., *p.* 1088).—**A. H. Peacock** reports the case of a male infant, aged 9 months, in whom malformation of the kidneys and ureters were found. The right kidney was greatly enlarged and the seat of pyonephrosis. From it came two dilated and tortuous ureters; one, draining the lower two-thirds, opened into the bladder in the normal situation, and the other, which drained the upper pole and had its own pelvis, opened into the prostatic urethra. The left kidney was small, but showed dilatation of the pelvis and calices. This also had two ureters—one, rudimentary, arising from the upper pole and ending blindly in the fundus of the bladder-wall, and the other, which was stenosed in the upper part and dilated below, opening normally. The bladder was distended and thickened, and there was a stricture of the urethra in front of the prostate.

T. R. WHIPHAM.

Fibro-adeno-rhabdomyomatous mesothelioma of the kidney (*'Amer. Journ. Obst.,'* 1916, LXXIII, *p.* 1147).—**R. A. Keilty.**—The patient was a boy, aged 3 years. The first complaint was shortness of breath. At the first examination, eight weeks before death, a tumour was found in the left kidney region. This grew rapidly, causing no pain. The urine was normal. At an exploratory operation it was decided not to remove the mass. Post mortem the tumour was found to be part of the kidney, the other kidney was normal, and there were no metastases. The tumour consisted of a dense spherical mass weighing 1150 grm., and about the size of the normal liver. On section it resembled a uterine fibroid, and showed a fairly large area of honey-combed cavity, containing a thin watery substance. Microscopical examination showed the tumour to be a fibro-adeno-rhabdomyomatous mesothelioma. J. D. ROLLESTON.

Malignant tumour of kidney in a boy of 4 years (*'Riv. di Clin. Pediat.,'* 1916, VIV, *p.* 169).—**S. de Villa** describes the case of a boy, aged 4 years, admitted with abdominal enlargement more marked on the right side, where there was a swelling the size of a fœtal head extending from the costal margin, contiguous with the edge of the liver, to the iliac fossa. The tumour was immobile on respiration and elastic with a sense of deep fluctuation. At the operation the tumour ruptured and some detritus escaped into the peritoneum. A few days later there was fever and cough, and a focus of broncho-pneumonia was noticed and thought probably due to metastasis. It cleared up, however, under treatment. Seven months after the operation enlargement of the mesenteric glands was noticed and the patient died shortly afterwards. Histological examination of the tumour showed a sarcoma with round and spindle-cells embedded in fibro-myxomatous tissue. In the author's clinic six similar cases were operated on and recovered completely. VINCENT DICKINSON.

Prolonged anuria with few symptoms (*'Amer. Journ. Dis. Child.,'* 1916, XI, *p.* 367).—**F. E. Clough.**—A girl, aged 7 years, had a mild attack of scarlet fever on March 3, during which she passed on the average only 1½ oz. of urine daily. From March 23 to May 7 the amount ranged from

1 to 4 oz., only once (April 3) did it rise to 30 oz. No albumin was ever detected, and only once two granular casts. There was no œdema nor any symptoms except scanty urine. Treatment was quite ineffective, but after May 9 the amount of urine increased very rapidly and by the end of the following week had reached normal. J. D. Rolleston.

Post-pneumonic nephritis ('*La med. de los niños*,' 1916, xvii, *p.* 63).—**L. C. Astor.**—A boy, aged 2 years, who had had pneumonia two weeks previously, presented an œdematous face, intermittent œdema of the lower limbs, dyspnœa, and constant cough. Pulmonary œdema in the right lung was found on examination. The urine was albuminous. The issue of the case is not recorded. J. D. Rolleston.

Nephritis treated by double decapsulation of the kidneys ('*Edin. Med. Journ.*,' 1916, ii, *p.* 179).—**J. C. Burns** describes a case in a girl, aged 6 years, who was admitted to hospital on account of "swelling of the body and eyes." The indications for operation are: (1) Persistent dropsy; (2) uræmia; (3) excessive albumin; (4) suppression or persistent and notable diminution of the amount of urine voided. The type of cases are acute nephritis or chronic nephritis with acute exacerbations. The best results appear to occur in chronic parenchymatous nephritis in which there is marked anasarca. In this particular case operation was justified on the following points: (1) Failure of a long course of medical treatment; (2) marked dropsy; (3) high amount of albumin; (4) diminution in the urine voided: (5) age of the patient. Operation is contra-indicated in (1) cardio-vascular disease; (2) patients over 50 years of age. The results of the operation on the girl are in keeping with those found in general in such operations: (1) Disappearance of dropsy; (2) increased secretion of urine; (3) great diminution in albumin. After operation there is transient anuria; then in about ten to fourteen days polyuria sets in. In about a month there are decided signs of improvement, which improvement is gradual. Whether permanent cure is established is doubtful, but there is great amelioration of the symptoms. The anæsthetic employed should be ether.
J. Allan.

Transient hæmaturia in children ('*Clin. Journ.*,' 1915, xliv, *p.* 396).—**A. J. Cleveland** describes five cases, in three of which there was no other evidence of disease; the other two were ill during the attack, one recovered, and the other died, but the author does not consider the hæmaturia had anything to do with the fatal illness. Various diseases which may cause hæmaturia are considered. F. R. B. Atkinson.

Albumosuria and intestinal toxæmia ('*Clin. Journ.*,' 1916, xlv, *p.* 122).—**A. Graham-Stewart** records three cases in children illustrating this connection. Case 1: Boy, aged 13 years. Twenty-one months previously he developed scarlet fever and acute nephritis; slight albuminuria persisted on and off for eighteen months. He had suffered considerably from constipation and mild intestinal toxæmia. During the continuance of the albuminuria he was carefully dieted, and three months after its disappearance the diet was relaxed. One morning he fainted, and the next day the urine contained a large amount of albumoses. Subsequent examinations showed no trace of them. Case 2: Girl, aged 2½ years, with very offensive motions. The urine gave a marked albumose reaction; there was no albumin. Under regular use of small doses of calomel, paraffin, and an intestinal disinfectant, the intestinal condition improved, and the albumoses disappeared. Case 3: Girl, aged 8 years, with mucous colitis. The urine contained large quantities of albumoses, which disappeared after two weeks' treatment with calomel and paraffin, with regulation of diet and massage.

J. D. Rolleston.

Alkaptonuria in childhood ('*La Pediatria,*' 1916, xxiv, *p.* 234).—**S. Maggiore** describes the case of a girl, aged 6 years. The urine was clear; specific gravity 1026, acid; albumin, glucose, bile pigment, blood, urobilin, urœrythrin, acetone, and indican absent; urea 11·261 per cent.; Diazo reaction negative. After about three hours' exposure in a glass a brownish cloud appeared at the upper part which slowly and progressively invaded the whole mass. Fehling's solution was reduced in the cold, perchloride of iron gave a faint blue, and Millon's reagent in the cold gave a lemon-yellow coloration, and on heating a brick-red precipitate.

Vincent Dickinson.

Management of enuresis ('*Arch. of Ped.,*' 1915, xxxii, *p.* 753).—**A. Newlin** gives the nurse in charge a chart with the hours of the day marked on the left-hand margin under the heading of the days of the week. If enuresis occur every two hours the child is placed on the chamber every hour. If the clothing is wet in between times the hour is noted. At night the child is put on the chamber hourly up to 11 p.m. thereafter every two hours. At the end of twenty-four hours there is a clear chart or one with several wet periods. The periods between the voluntary urinations are extended but the hours marked "wet" on the proceeding days' charts are always anticipated by placing the child on the chamber. By the end of a week enuresis ceases entirely between the hours of 11 p.m. and 6 a.m.

Christopher Rolleston.

Course and prognosis of pyelo-cystitis in infancy ('*Urol. and Cut. Review,*' 1916, xx, *p.* 245).—**C. G. Grulee.**—The onset is usually sudden, with a high rise of temperature and little else The fever is usually quite irregular. There is a marked tendency to rapid rises and falls. In the very early stages pus is not present in the urine, but a distinct bacilluria exists. Within 24-74 hours pus appears, and is usually present in very large amounts. In by far the greatest number of cases *B. coli* is the causal organism. Occasionally streptococci, and more often staphylococci, are found. Grulee thinks that the seriousness of pyelo-cystitis in infancy has been greatly underestimated, as it not infrequently leads to death, and has a marked tendency to repetition in a large number of cases.

J. D. Rolleston.

Bladder tumours in the young ('*Boston Med. and Surg. Journ.,*' 1915, clxxiii, *p.* 873).—**R. F. O'Neil.**—Vesical tumours in children are very rare. The great majority appear before the fifth year. They are of the connective tissue type, and with rare exceptions are clinically and pathologically malignant. Difficulties in micturition are usually the first symptoms. Straining is common. Early diagnosis and operation offer the only hope of recovery. O'Neil reviews the literature and records some personal cases in young adults.

J. D. Rolleston.

Sarcoma of the prostate in a boy aged $4\frac{1}{2}$ years (‘*Arch. de méd. des auf.*’ 1915, XVIII, *p.* 598).—**B. de Saussine, G. Bertrand,** and **H. Androtsellis.**—The course of the disease was insidious at first, being characterised by some difficulty in micturition and pollakiuria, followed by colicky pain in the hypogastrium. About a fortnight after the onset complete retention developed. Ascending infection of the urinary passages ensued owing to repeated catheterisation and death took place. The autopsy showed a tumour the size of a mandarin orange surrounding the prostatic urethra, purulent cystitis, and a slight degree of pyelonephritis. On microscopical examination the tumour was found to be a fibro-sarcoma with myxomatas degeneration in places. J. D. ROLLESTON.

An unusual case of epididymo-orchitis in an infant (‘*Arch. of Ped.*,’ 1915, XXXII, *p.* 846).—**A. G. Mitchell** and **N. J. Quinn** record a case in an infant, aged 3 months. On December 27th its left testis and epididymis were found to be enlarged and tender. Temperature, 100 to 103° F. With the application of cold the inflammation subsided and the temperature fell to normal in five days. On January 8 there was a purulent urethral discharge, examination of which showed numerous Gram-negative diplococci, both intra- and extra-cellular. The discharge lasted several days. No history of infection could be obtained. Of 132 cases of gonorrhœa in male children reported since 1910 only three had epididymitis. With the exception of Reinhardt’s case, aged 3 weeks, this is the youngest case on record (*Vide* BRITISH JOURNAL OF CHILDREN’S DISEASES, 1916,XIII, *p.* 23). J. D. ROLLESTON.

Imperforate hymen in a baby (‘*Lancet*,’ 1916, I, *p.* 823).—**H. R. Spencer.**—A baby girl, aged 11 weeks, was brought to hospital on account of a swelling in the vulva which the mother had first noticed a fortnight previously. On inspection the labia were separated by a cystic swelling of the size of a small marble which became a little more prominent when the infant cried. It was obviously the imperforate hymen. Its most prominent part was seized with mouse-tooth forceps and an elliptical piece was snipped out; about a drachm of mucus escaped from the vagina and the hymen sank back to its normal position. A thin strand of oiled gauze was inserted into the hymeneal opening for a few days. A fortnight later the part had a normal appearance. The mother was instructed to bring the baby to the clinic from time to time in order to make sure that the aperture did not close. The author urges practisers of midwifery to make a routine inspection of the vulva of female babies before the puerperal attendance ceases. If the hymen is found to be imperforate and bulged forwards by secretion, a snip with a pair of scissors will save the patient from a grave risk to her fertility, health, and even life. J. ALLAN.

The prognosis of infantile vulvo-vaginitis (‘*Dermat. Wochenschr.*,’ 1915, LXI, *p.* 1077).—**P. Pontoppidan** inquired into the subsequent history of seventy-nine children who had been discharged from two Copenhagen hospitals after vulvo-vaginitis. Seventeen of these he examined personally, and in none was any gonorrhœa present. As regards the remaining sixty-two the mothers were so certain that the children were cured that they refused examination. The disease lasts as a rule for several months, sometimes with exacerbations and remissions for several years. The result, however, appears to be recovery in every case. There is no reason to suppose that the disease ever lasts until adult life. J. D. ROLLESTON.

A case of pregnancy diagnosed by radiography (*'Paris Méd.,'* 1917, VII, *p.* 314).—**E. Albert-Weil.**—A somewhat backward girl, aged 15 years, was brought to hospital because her mother had found that she had not been menstruating for four months. The abdomen was slightly increased in size, but the breasts were not much developed, and neither the fœtal heart nor the uterine souffle could be heard. The hymen was intact. The X rays showed that the pelvis was not completely ossified. A fœtal head was plainly visible above the sacrum and above it a series of rings indicating the vertebral column. The diagnosis of pregnancy was therefore undoubted, although the penis had not penetrated into the vagina.

J. D. ROLLESTON.

Reviews.

THE DECLINING BIRTH-RATE: ITS CAUSES AND EFFECTS. 1916. London Chapman & Hall, Ltd. Pp. 450. Price 10s. 6d. net.

The Commission to inquire into the national birth-rate, which was instituted by the National Council of Public Morals, commenced its sittings in October, 1913. It has now issued in book-form the report on its labours, which extended over a period of two and a half years. In addition to the general report and an addendum to the same, the chief part of the evidence given before the Commission is also included.

The extent of the Commission's investigations is indicated by the number and diversity of the witnesses examined, among whom we may mention Dr. Drysdale, Secretary of the Malthusian League, Sir Francis Champneys, Dr. Jordan, of California, Dr. Ballantyne, Mr. Berry, of the L.C.C., Dr. Dunlop (Scotland), Mrs. Burgwin, Dr. Amand Routh, Dr. Mary Scharlieb, Dr. Reid (M.O.H., Staffordshire), Sir Thomas Oliver, Dr. Major Greenwood, Dr. Chalmers (M.O.H., Glasgow), and Dr. Stevenson, of the General Register Office. These and others dealt with the subject from the social and physiological standpoints. The moral and religious aspects of the problem were further discussed by the Rev. W. F. Lofthouse, Secretary of the Wesleyan Methodist Union, the Right Rev. Monsignor W. F. Brown, the Chief Rabbi, and the Bishop of Southwark.

The conclusions which the Commission considers to be definitely established are: (1) that the birth-rate has declined to the extent of approximately one-third within the last thirty-five years; (2) that the decline is not, to any important extent, due to alterations in the marriage-rate, or to other causes diminishing the proportion of married women of fertile age in the population; (3) that this decline, although general, has not been uniformly distributed over all sections of the community; (4) that on the whole the decline has been more marked in the more prosperous classes; (5) that the greater incidence of infant mortality upon the less prosperous classes does not reduce their effective fertility to the level of that of the wealthier classes; (6) conscious limitation of fertility is widely practised among the middle and upper classes, and there is good reason to think that, in addition to other means of limitation, the illegal induction of abortion frequently occurs among the industrial population; (7) there is no reason to believe that the higher education of women (whatever its indirect results upon the birth-rate may be) has any important effect in diminishing their physiological aptitude to bear children. Thus far the Commission goes, but no further. The important question of venereal diseases, upon which so much depends, is but lightly touched upon in view of the facts that a Royal Commission had been appointed to investigate this subject, and that no trustworthy material of a statistical nature was within the Commission's reach.

Among the suggestions put forward to remedy the decline in birth-rate are: (1) the establishment of a minimum or "living" wage; (2) State bonuses for families with small incomes; (3) the separate assessment of the husband's and wife's incomes, and a remission of the tax on incomes below £600 per annum for each child; (4) improved housing accommodation and better facilities for land-tenure; (5) the prohibition of the sale of diachylon and of mechanical and chemical preventives of conception.

It will thus be seen that the work accomplished by the Commission is of considerable importance. The future welfare of the race and the protection of the rising generation are among the chief topics of the day. The report is issued at an opportune moment, and will, it is to be hoped, bear good fruit.

T. R. W.

The Mortality from Cancer throughout the World. By Frederick L. Hoffman, LL.D., F.S.S., F.A.S.A. Newark, New Jersey: The Prudential Press, 1915. Pp. 826 + xv.

Dr. Hoffman, the statistician to the Prudential Insurance Company of America, has collected from all parts of the world a vast amount of detail concerning the distribution and mortality of cancer, and has embodied it in this book, which will be invaluable as a work of reference to all who are interested in the statistics of the subject, whether from a scientific or an insurance point of view. The cancer question is dealt with, it may be fairly said, from every conceivable aspect as regards statistics, and the wealth of information here presented may be gauged by the fact that the charts and tables alone occupy some 550 pages.

The book opens with an outline of the general principles of statistical inquiry and of the methods pursued in the investigation of the cancer problem, which the author admits are in need of standardisation and still further extension. The information at present available, however, is sufficient to warrant the conclusion that "cancer is increasing at a more or less alarming rate throughout the entire civilised world"; and from the statistics of occupations it appears that an exceptional cancer frequency occurs in certain particular employments. The evidence afforded by the returns of life insurance companies throughout the world further supports the conclusion that cancer mortality is on the increase among policy holders, medically selected, as well as among the population at large. At the same time, they show that overweight, and not underweight, has an influence on the death-rate from malignant disease, that the marital or conjugal condition exerts important modifications, and that heredity or family history is of little account.

The geographical incidence of cancer brings out the wide range in the cancer frequency rates of different countries and cities, the highest death-rate prevailing in Europe and the lowest on the continent of Africa. Cancer mortality is exceptionally high in Switzerland, Bavaria, and Holland, and is extremely rare among the North American Indians and the primitive races of Asia and Africa. It is found that practically all forms of cancer are on the increase, but naturally to quite a variable degree.

The returns for the American states and cities are presented in detail, together with the corresponding data for other countries. These seemingly point to the fact that cancer frequency decreases with diminishing distances from the Equator; in other words, a rise in cancer mortality is observed to occur with a diminishing mean annual temperature and rainfall.

The question of the parasitical origin, and consequently the possible infectiousness of the disease, is considered at some length, with special reference to cancer houses and districts. The evidence as regards the possibility of such an origin is held to be inconclusive, an opinion which is borne out by the fact that there is no record of infection being acquired by surgeons operating upon cancerous patients.

Radium and radio-therapy are likewise referred to, and the conclusion arrived at is that in external cancers the outlook of this form of treatment is encouraging, but that as regards internal growths the evidence at present is quite contradictory and inconclusive.

The author states that the mortality from malignant disease throughout the civilised world exceeds 500,000 per annum, and that to prevent an even higher death-rate the disease should be subject to more effective methods of treatment and control. To attain this end the imperative necessity of early surgical and possibly other interference must be urgently insisted upon, and the scope of statistical research be still further extended.

It is only possible to give here a bare outline of the ground covered by this book. The labour and care expended upon its production must have been stupendous. The bibliography of the more important works and articles consulted extends to 19 pages, and the list of authors quoted contains 323 names. The book is distributed gratuitously by the Prudential Insurance Company of America to medical libraries, members of the medical profession, and to all others specially interested in the cancer cause and the problem of cancer control. T. R. W.

PULMONARY TUBERCULOSIS IN GENERAL PRACTICE. By HALLIDAY G. SUTHERLAND, M.D.Edin. 8vo, pp. xvi × 290, with 6 plates, 42 figures in the text, and 9 charts. London: Cassell & Co., 1916. Price 10s. 6d. net.

Dr. Sutherland, who is Consulting Tuberculosis Officer for North Marylebone, and Medical Officer to the Marylebone Tuberculosis Dispensary, has written this book for the benefit of the general practitioner. It sets out to put before him the modern conception of pulmonary tuberculosis as a systemic disease, localised in the lungs perhaps, but reacting upon all the tissues of the body. The author is a pupil of Sir Robert Philip, and his pages reflect the teachings of the Edinburgh school. An adequate but short account of the pathology of tuberculous infection is given, while great care is devoted to an exposition of the symptoms, signs, diagnosis, and treatment of pulmonary tuberculosis; pleurisy and hæmoptysis each receive a special chapter. Dr. Sutherland is a believer in the utility of tuberculin for the diagnosis and treatment of the disease, so long as its employment remains in suitable hands and is confined to suitable cases. No special account of pulmonary tuberculosis in infants or children is given, although the subject is referred to at some length in the first chapter and also elsewhere in the volume. Dr. Sutherland's style is brief and lucid; he gives plenty of practical directions and recipes such as the general practitioner requires. The book is well illustrated and well printed; it may be recommended to the attention of all medical men and students who are in want of a sound account of the subject.

A. J. J.-B.

THE TREATMENT OF INFANTILE PARALYSIS. By ROBERT W. LOVETT, M.D., Professor of Orthopædic Surgery, Harvard Medical School, Surgeon to the Children's Hospital, Boston, etc. London: W. Heinemann 1916. Pp. 163 + ix, with 113 Illustrations. Price 8s. 6d. net.

WE cordially welcome this book by Dr. R. W. Lovett, of Boston, who is well known as an authority and writer on infantile paralysis. As the title indicates, its object is to set forth the modern methods of treating the disease in question. Progress in this direction has of recent years been so rapid that a book of this sort is urgently called for, and we congratulate the author on his eminently practical exposition of the various therapeutic measures which should be employed. The book, moreover, has a valuable asset in that throughout its pages it bears the stamp of the author's individuality and reflects the outcome of his own personal observation and experience.

The opening pages are devoted to a chapter on the pathology, symptoms, mortality, diagnosis, and prognosis of the disease. From this it appears that the lesions recently found in American cases are more extensive than those usually met with in this country, for the author states that in the Vermont outbreak "abdominal paralysis existed in more than half of all the cases (seventy-nine), and affection of the muscles of the spine in more than a quarter (forty)."

In discussing the treatment the author divides the disease into three stages: (1) The acute; (2) the convalescent, which continues so long as spontaneous improvement is maintained (about two years); (3) the chronic, when the affection has become more stationary, and deformities, if present, have become established. In dealing with the acute stage Dr. Lovett emphasises the necessity for absolute rest, and utters a warning against massage and all other interference so long as any tenderness persists. Means, however, must be taken to prevent the onset of contractions and early deformity. During the second stage exercise in moderation is advocated, and here some useful hints are given as to the necessary boots and leg-supports. Electricity, in the author's experience, is not of much value as a therapeutic measure. It is, however, in the chapters dealing with the chronic phase that the writer's personality is chiefly in evidence. The various methods of treating deformities, both operative and otherwise, are set forth clearly and concisely, and the merits and demerits of the different operations are discussed judicially and with an open mind. The author indicates the methods of procedure which have yielded the best results in his own practice, and herein lies, as we have already stated, one of the great merits of this book.

A feature in the treatment of the chronic stage, upon which Dr. Lovett lays stress, is the training of muscles, and to this a special chapter is devoted. Details are given of exercises for every group of muscles that is liable to be affected, and of the necessary position of the limb or body for such to have the best effect. Finally, instructions are given for muscle testing by means of the spring-balance. In this way the strength of the various muscles can be accurately gauged and a record kept of improvement or the reverse.

The book is well got up and is excellently illustrated with diagrams and numerous photographs of typical and remarkable cases. It should be studied not only by orthopædic surgeons, but by all whose practice brings them in contact with infantile paralysis. Such cases are apt to be too much neglected, but a perusal of this book will reveal the many possibilities of treatment. T. R. W.

SURGICAL CONTRIBUTIONS FOR 1881–1916. By RUTHERFORD MORISON, M.B., F.R.C.S. Price 42s. net. Vol. I, General Surgery, 15s. net; Vol. II, Abdominal Surgery, 30s. net. 1916. Bristol: John Wright & Sons.

THE practice of many physicians and surgeons of publishing collections of clinical lectures and essays upon various medical and surgical subjects is one that appears to be becoming more common, and we notice this tendency with some misgiving. In our opinion all medical books should have some definite purpose in view. They should be written with the object of assisting fellow practitioners, or with a view to teaching students, or in order to popularise some new surgical procedure. The practice of simply collecting a number of essays and lectures on totally different subjects and publishing them as a book does not commend itself to us. The reader is left to hunt through the book to obtain the information he wants, whereas this should have been done for him by the author. Moreover, experiences of many years ago are of but little practical value at the present day.

In this book Mr. Rutherford Morison has collected practically all that he has written since he has been in surgical practice. Many of the cases recounted, many of the lectures and short essays given are of considerable interest, and Mr. Rutherford Morison has a trenchant style which often drives a point home with pleasing emphasis. This makes us all the more regret that such a large mass of heterogeneous material should have been bundled together in these two volumes, for we cannot help feeling that if Mr. Rutherford Morison had written a book on general surgery, having some definite object, such as the teaching of students or the assisting of other surgeons, it would have been of real value as a modern text-book, which these two volumes can hardly claim to be.

These two volumes contain such varied matter as Impressions of American Hospitals; Notes of Seventeen Cases of Vesical Calculi, 1885; The Prevention and Treatment of Puerperal Sepsis; Diagnosis and Treatment of Breast Cancer; Notes of a Visit to Prof. Rutherford Morison's Clinic; a photograph of all Mr. Rutherford Morison's House Surgeons. We fail to see what possible interest there can be to the reader in a list of specimens added to the Pathological Museum in 1903; or why the review of a book by Mr. Mayo Robson and Sir Berkeley Moynihan in 1902 should be included. The two volumes are well got up; they are on good paper and nicely bound, and the illustrations are well done.

THE HOPE OF THE FUTURE: THE MANAGEMENT OF CHILDREN IN HEALTH AND DISEASE. By DR. MARY SCHARLIEB. London: Chapman & Hall, Ltd. 1916. Pp. 261 + x. Price 6s. net.

ANOTHER handbook for nurses and mothers has appeared—this time from the pen of Dr. Mary Scharlieb. Considering the reputation of the authoress we are disappointed in what she has given to us, not that the book is lacking in useful information or unsuited for its purpose. Much of it is good, and, indeed, the chapters on "Puberty and Adolescence" and on the "Nervous Difficulties of Adolescence" are written with a true insight and should prove of great assistance to parents who really try to understand their children.

The book begins with a brief outline of the anatomy, physiology, and life of early childhood, to which less than fifty pages are devoted. The rest is practically an elementary text-book on medicine so far as it concerns the child, and here some inequalities appear with regard to the importance attached to some subjects and the exclusion of others. The book is avowedly written for English mothers, but we find accounts of typhus fever and plague to the exclusion of diseases of the newborn and of birth palsies. Malta and dengue fevers are described, but not torticollis or laryngismus stridulus; dysentery, but not disorders of speech. Mention is made of malaria and yellow fever, but not of the thyroid gland and its diseases. Scabies is referred to, but not pediculosis. A good deal of space, comparatively speaking, is devoted to gastric and duodenal ulcers, but there is no account of jaundice, and the chapter on "Skin Diseases" contains no reference to purpura or nettle-rash.

Moreover, the book is marred by frequent looseness in the writing and by numerous mistakes. We do not like the constantly recurring phrase, "The best cure is prevention," and cannot condone "eclamptic convulsions" or the word "anæmiating." Among the mistakes we may mention a reference on p. 8 to the fœtal circulation, which contains the expression, "the well-oxygenated blood from the lungs," and the omission of the palate being affected in diphtheritic paralysis; in the latter connection also we should like to draw Dr. Scharlieb's attention to the fact that antidiphtheritic serum is not a vaccine. On p. 102 an Italian nationality is conferred upon Laveran, together with a change of name to Lavarani. We have heard of such a thing in the case of singers, but never before with regard to a scientist. On pp. 50 and 86 there are some curious remarks concerning the infectivity of the desquamated particles in measles and scarlet fever. In the chapter on "Rheumatism and Heart Disease," in the course of five pages we come across the following: "Rheumatism, as it occurs in children, is nearly always acute rheumatism, or milder attacks—usually called sub-acute rheumatism"; "in many cases, which are so mild as to pass almost unnoticed"; "Rheumatic Fever, although it is called Acute Rheumatism, is by no means a rapid illness; the raised temperature and other symptoms of illness run a perfectly indefinite course and last for weeks"; "the great stand-by in such cases being salicylate of sodium"; "the most important item in the treatment of acute rheumatism is no drug nor other obviously medical remedy (*sic*), but absolute and complete rest"; "the beginning and end of the treatment of acute rheumatism, and of all conditions allied to it, is rest of mind and body"; and with reference to heart disease, "Towards the end of the child's life there is frequently dropsy and also œdematous swelling of the feet and legs towards evening and of the eyelids and face in the morning." What definite ideas a lay person will gather from the above quotations it is difficult to say.

At the end there is an appendix containing eighteen formulæ, and a somewhat inadequate index.

The book requires careful revision and correction before it can take the place to which, apart from its inequalities and errors, it is otherwise entitled.

T. R. W.

CLINICAL METHODS: A GUIDE TO THE PRACTICAL STUDY OF MEDICINE. By ROBERT HUTCHISON, M.D., F.R.C.P., and HARRY RAINY, M.D., F.R.C P. Edin., F.R.S.E. Sixth Edition. Revised throughout. London: Cassell & Co., 1916. Price 10s. 6d. net.

MORE than four years have passed since the last edition of this excellent manual (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1912, ix, p. 524), though three reprints have been called for in the interval.

The principal changes in the present edition are those in the chapter on clinical bacteriology. The method of taking material for the preparation of vaccines has been described, and new matter has been added regarding various micro-organisms, especially the paratyphoid group, *B. dysenteriæ*, *B. tetani*, *micrococcus rheumaticus*, *diplococcus intracellularis*, and the organisms of Vincent's angina.

The chapter on the circulatory system contains a brief summary of the results of modern methods of examination of the myocardium.

J. D. R.

THE EYES OF OUR CHILDREN. By N. BISHOP HARMAN, M.A., M.B.Cantab., F.R.C.S.Eng. London: Methuen & Co., Ltd. Price 1s. net.

This little book is one of Methuen's Health Series, the purpose of which is to place before lay readers in simple and non-technical language much practical and useful information regarding their health. Mr. Bishop Harman has an important subject to write on, and he discusses various points in a most satisfactory manner. The book deals with the eyes of the child, their common defects, and the best means of safe-guarding their use at school and at home. The careful perusal of this small volume would not only bring under notice the great value of good eyesight, but would also strongly emphasise the importance of the conservation of vision for future generations. We can with confidence recommend the book to all interested in the welfare of child life.

J. A.

STUDIES IN MEDICINE: UNIVERSITY OF IOWA MONOGRAPHS. Vol. i, No. 1, June, 1916. Price $·40.

WE welcome the first appearance of these collected papers, which, though previously published, are not all from very accessible sources. Of the present instalment of ten papers the first is from the Editor, Prof. Henry Albert, on chordoma, a rare form of tumour derived from the remains of the notocord. Out of the 16 cases collected, 10 arose from the spheno-occipital synchondrosis and 6 from the sacro-coccygeal region, and 10 were clinically malignant and 6 innocent. In a paper entitled "Strychnine, miscalled Stimulant; an Example of a Dangerous Misuse of Words," Chase and Schlomovitz insist that this drug sensitises the nervous centres, and if given alone may enable toxins to act more readily and so does harm, unless it be combined with some real stimulant such as atropine or caffein. There are two papers by C. E. Royce, one on the use of plaster of Paris in mounting gelatine preparations, and the other on tuberculosis of the ovary, which he concludes is never primary and occurs mainly by the blood-stream. A. L. Grover shows that alcohol, when given for long periods to animals, produces hepatic cirrhosis, and in a further paper discusses the occurrence of spontaneous hepatic cirrhosis in animals, and finds that it is so comparatively infrequent as not to invalidate the results of experimental alcoholic intoxication.

H. D. R.

THE ROCKEFELLER FOUNDATION INTERNATIONAL HEALTH COMMISSION. SECOND ANNUAL REPORT, JANUARY THE 1ST, 1915—DECEMBER THE 31ST, 1915. Offices of the Commission: 61, Broadway, New York, 1916.

UP to 1915 this Commission had devoted itself almost entirely to the relief and control of hookworm disease, but subsequently this work was extended and arrangements were made to deal in a similar manner with malaria and yellow fever, in addition to other activities.

The present report gives an interesting account of the measures taken against hookworm disease in the Southern United States, West Indies, Central America, and Egypt, as regards sanitary improvement, educational work, hospital work, and survey work.

Numerous instructive photographs illustrating uncinariasis are appended (*cf.* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1916, xiii, p. 64).

J. D. R.

MANCHESTER BABIES' HOSPITAL: MEDICAL REGISTRAR'S ANNUAL REPORTS. August, 1915–July, 1916. Manchester University Press. Price 1*s.* net.

THE cases admitted were clearly of great severity, the majority of them showing a great loss of tolerance for food, and many of them, in addition, showing evidence of terminal infections—bronchitis, subcutaneous abscesses, and so forth. With such material uniformly good results are not to be expected, but there is ample evidence in the Reports that the care and nursing which have been bestowed upon these miserable children have not been without good effect. As to the value of publishing annually a volume which consists only of a collection of short clinical histories detailing the changes of diet, the medicines ordered, and the varying symptoms, we are in some doubt. These statistics can, in the nature of things, be of use and of interest only to those who have seen and studied the children in life. No attempt is made to divide the cases into clinical groups, but each is treated as a separate study. Nor is there any grouping or division according to the kind of diet which proved successful. There is not indication that modification of diet has been used upon any plan or others than haphazard.

H. C. C.

EDUCATION IN VICTORIA: REPORT OF THE MINISTER OF PUBLIC INSTRUCTION FOR THE YEAR 1914–15. 1915. By authority. A. J. Mullett, Melbourne. 4to. Pp. 112.

THIS report is of a similar nature to those issued for previous years. It contains details of the working and administration of the various schools in the province of Victoria and several appendices or supplementary reports.

We note that mention is again made of the occurrence of goitre, which appears to be endemic in certain localities, and to be bacterial in origin rather than due to the drinking water. Enlargement of the thyroid gland was found in young children of both sexes as well as in older members of families and in parents.

A new series of intelligence tests, devised by S. D. Porteus, is perhaps the most important feature of the report from a clinical point of view. These are used like the Binet-Simon tests and consist for the most part of increasingly complicated mazes. Illustrations of the tests and a description of the way in which they should be employed are given.

T. R. W.

Correspondence.

To the Editor of THE BRITISH JOURNAL OF CHILDREN'S DISEASES.

STANDING JOINT COMMITTEE OF INDUSTRIAL WOMEN'S ORGANISATIONS.

DEAR SIR,—I beg to enclose the following resolutions which were passed at a meeting of the Standing Joint Committee of Industrial Women's Organisations on June the 5th, and hope that you will find room for them in your valuable paper:

"RESOLUTION.

"That the Standing Joint Committee of Industrial Women's Organisations, believing that national measures are necessary to meet adequately the needs of maternity and infancy, ventures to ask the Committee responsible for 'Baby Week' to consider the possibility of bringing forward the following proposals at the meetings arranged during the week:

"1. That it be made compulsory on Public Health Authorities (*a*) to establish Maternity Committees; (*b*) to adopt a scheme suitable to their locality, making adequate provision for the health of mothers (including treatment as well as advice), before, at, and after confinement, and for children up to school age.

"2. That the powers of Local Health Authorities should be extended so as to enable them to provide dinners and milk for mothers and young children and any other developments deemed desirable in the interests of maternity and sanctioned by the Local Government Board.

"3. That steps should be taken to enable Local Health Authorities to supply pure milk at a cost within the reach of all classes.

"4. That a Ministry of Health based on the Public Health work of the Local Government Board, with a Maternity Department partly staffed by women, should be immediately created."

Yours faithfully,
MARY E. COATES,
Secretary.

1, Victoria Street, London, S.W. 1;
June the 8th, 1917.

/161.

THE
BRITISH JOURNAL
OF
CHILDREN'S DISEASES.

Vol. XIV. JULY—SEPTEMBER, 1917. Nos. 163–165.

Original Articles.

HYPERTROPHIC STENOSIS IN INFANTS.

By L. Emmett Holt, M.D.,
New York.

The data which form the basis of this paper have been derived from a study of 141 cases. These patients have been treated in a variety of ways both medically and surgically. Microscopical examinations of the stomach have been made in twelve cases by Dr. Wollstein, pathologist to the hospital. Of the infants who recovered, three have been lost sight of; ten died subsequently from other conditions; the remaining sixty-four have been followed almost up to the date of writing, twelve of them for a period of four years or over.

The clinical course and the uniform pathological findings have convinced my colleagues as well as myself that a division of cases of pyloric stenosis of infants into spasmodic and hypertrophic types is not admissible.

In hypertrophic stenosis the pylorus forms a tumour which is about as large as a peanut or the last phalanx of the little finger. It is of a glistening white colour and has a cartilaginous hardness. The opening into the duodenum may be so small as to admit only the finest probe. In some cases even water cannot be forced through, but usually the normal opening is only much narrowed. On longitudinal section the hypertrophy is seen to involve not only the pyloric ring but the entire antrum which may be two or three times its normal thickness. It has a pearly-white colour and seems to be almost destitute of blood-vessels. In recent cases there is usually a considerable amount of œdema. Microscopically the longitudinal layer, the submucous and the mucous coats are in most cases quite normal; the lesion is practically limited to the circular muscular layer. The circular fibres are much increased both in size and number. There is a true hypertrophy. The walls of the stomach are often found somewhat thickened and its cavity is generally dilated. The intestines are frequently empty and collapsed. There are no other lesions of importance.

---

* The Annual Frederick A. Packard Lecture, delivered before the Philadelphia Pediatric Society on February the 13th, 1917.

It is our firm belief from our observation of these cases in the early weeks that in all hypertrophy precedes the tonic spasm; but that the hypertrophy continues long after the spasm has subsided we have absolute proof.

The clinical picture presented by a case of hypertrophic stenosis is a striking one and in a large majority of those seen it is remarkably uniform. An infant, usually breast-fed, who has nursed well, gained normally in weight, has had sufficient and well digested stools, and in fact has shown few or no other signs of disturbance begins to vomit persistently and forcibly. These symptoms have their most frequent beginning in the third or fourth week of life and in most cases their onset is abrupt and without assignable cause. To the forcible vomiting are added marked constipation, steady loss in weight, and all the symptoms belonging to failing nutrition. Careful examination reveals definite gastric peristaltic waves and in most cases a palpable tumour in the pyloric region. While a palpable tumour cannot be considered essential to the diagnosis, it will usually be found by a careful observer under favourable conditions.

Abnormal gastric retention is easily estimated by emptying the stomach two, three, or four hours after a test-meal by means of a simple suction apparatus composed of a rubber catheter, a small laboratory wash bottle and a suction tube. The test-meal we have usually employed is two or three ounces of breast-milk; diluted condensed milk answers the purpose, but one should not employ mixtures of unboiled cows' milk, as the coagulated milk in the stomach may block the tube.

The *diagnosis* of hypertrophic stenosis in most instances is easy, provided one is familiar with the disease, for the symptoms in fully four-fifths of the cases are classical. In some, especially of the milder forms, several days of close observation may be necessary. Enumerated in the order of their diagnostic importance I would place the points in the following order:

(1) The history, if obtained from a reliable mother or nurse.

(2) Abnormal gastric retention, observations being repeated four or five times at least.

(3) Peristaltic waves, not of diagnostic value unless typical.

(4) The presence of a palpable tumour.

(5) Wasting, constipation, scanty urine, etc.

It is doubtful whether the X ray tells more than can be learned from careful observations of the gastric retention as described above. Furthermore, it must be remembered that these patients are very young, most of them in very bad condition, and that they bear the manipulation incident to successive investigation with the bismuth meal very badly.

The *medical treatment* of hypertrophic stenosis consists in careful feeding and stomach washing. The gastric lavage should be practised at first twice a day, later at longer intervals; it serves the purpose of emptying the stomach thoroughly of mucus and fermented food; the water used should be warmer than usual, that is, up to 112° F. If it can be secured, breast-milk is the preferable food, but one not rich in fat is desirable. The common practice of weaning as soon as symptoms develop is most unwise. In default of breast-milk a modified milk mixture low in fat should be employed.

With respect to quantities and intervals of feeding, cases respond differently. We have usually depended on from one to three ounces at three- or four-hour intervals, or small quantities and shorter intervals, especially if the food is breast-milk; with the longer intervals water should be given between feedings. In greatly prostrated patients hypodermoclysis should be used daily; from 150 to 250 cc. of 4 per cent. dextrose may be given in a saline solution at one time. Rectal feeding is of little assistance. The bowels are usually best moved by enema. Drugs and local applications of heat over the epigastrium for the purpose of allaying the spasm I believe to be of little value. The weight should be carefully watched and taken daily as it is the best guide to the patient's condition and progress.

Surgical treatment.—In 1908, Dufour and Fredet collected published results in 135 operations. The principal groups were:

Gastro-enterostomy .	52 cases	with 22 recoveries.	
Divulsion . . .	36 ,,	21 ,,	
Pyloroplasty . .	22 ,,	13 ,,	
Various modifications and combinations . .	25 ,,	12 ,,	
	135	68	— Mortality 50 per cent.

In 1913, Rammstedt, of Munster, reported a successful case in which he simply divided the circular muscular layer of the pylorus by external incision. His case, a typical one, made an excellent recovery. He advocated this procedure as a substitute for the older operations—gastro-enterostomy, divulsion and pyloroplasty—then in vogue. The great advantages he claimed were that the stomach was not opened and the duration of the operation was much shortened. In his case it required but fifteen minutes as compared with thirty to fifty minutes needed for most of the other operations.

Rammstedt's operation of external muscle division has been done in the hospital up to January, 1917, in sixty-seven cases, all but one of these by Dr. Downes. Up to January, 1915, it was done occasionally, in all upon six patients. But since that date it has been done exclusively in the institution. In nineteen of the first twenty cases, in order to make sure that the constriction had been completely divided, the stomach was opened and a sound passed through the pylorus. This was then decided by the surgeon to be quite unnecessary and hence discontinued in the last forty-seven operations. It certainly adds to the operative risk.

Including my private cases and those operated on at the Babies' Hospital there were 41 gastro-enterostomies with a mortality of 51 per cent.; of the 28 cases done by Dr. Downes the mortality was 43 per cent.; of the 67 cases in which the Rammstedt operation was done the mortality was but 24 per cent.

The advantages of this operation are evident to one who has had experience with the other operations proposed. First in importance may be mentioned the time required. Seldom does the entire operation consume over fifteen minutes and it is often completed in ten. The stomach is not opened and the risks of non-union, leakage, and peritonitis are eliminated, and a minimum handling of the viscera is required. So much for the surgical aspects. Our experience has shown that the shock is much less severe, the temperature reaction is less marked, food can be pushed more rapidly and disturbances of digestion, particularly diarrhœa which has been so troublesome a symptom after gastro-enterostomy in more than half our cases, is very much less frequent and less severe. This is undoubtedly due to the fact that the food passed normally into the duodenum instead of directly into the jejunum.

After-treatment.—The success of operative measures in this condition is dependent in no small degree upon the after-treatment. For a number of days after the operation the lives of these little patients often hang by a very slender thread, and errors in judgment, especially with regard to feeding, often have the most disastrous consequences. It is then of the highest importance not only that the operation be done by a skilled surgeon but that the infant after the wound is closed be under the care of one equally skilled in the post-operative management. The problems presented to the physician are often more difficult than those of the surgeon. Hence hospital care is for most patients indispensable.

Medical v. *surgical treatment.*—On the whole is medical or surgical treatment of hypertrophic stenosis in infancy to be advised? It must be admitted that there appears to be considerable difference of opinion among those with some experience in this disease. Some physicians have reported groups of cases with so low a mortality as to lead to the inference that nearly all these patients recover without resort to surgery. While some surgeons have taken the position that the condition is purely a surgical one and that the patient should be turned over to them as soon as the diagnosis is made; that medical treatment is in most cases only waste of time and jeopardises the life of the child because he does not come to the surgeon until so late that the chances of successful operation are greatly reduced. To what is this difference of opinion due? Are the physician and the surgeon talking about the same clinical and pathological conditions? I do not believe that they always are. Hypertrophic stenosis, we would repeat, is a definite pathological entity, though the cases differ much in severity. This is the condition that the surgeon and the medical consultant see. There are, I believe, a number of pathological conditions in early infancy associated with vomiting which have many of the symptoms seen in hypertrophic stenosis, but which on close study are seen to be quite different. There are also different conditions in which there is visible gastric peristalsis—even this symptom does not put the cases in the same class with those we have been discussing. A large proportion of such cases recover with medical treatment only, as do also most of those of hypertrophic stenosis of the milder type, although probably in very many of them the correct diagnosis is not made.

If the child is seen in private practice with the possibilities of the best care and most intelligent feeding—particularly breast-feeding—if the weight is stationary or the loss in weight is not great and the child still in good condition, if the vomiting is only two or three times a day, if the stools are fæcal, and if no surgeon with experience in these cases is available, one is justified in waiting.

On the contrary, if the weight has fallen to six pounds or below and the loss is still going on, if the vomiting is continuous, if there is marked gastric retention, if the stools contain no fæcal matter, no time should be lost, but immediate operation advised, particularly in a hospital, whether a tumour is palpable or not.

No better argument can be adduced for operative treatment than a comparison of our results at the Babies' Hospital in the three periods into which I have divided our experience. During the first period up to the end of 1911 our policy was operation only after a prolonged trial had been made of medical treatment, surgery being looked upon as a last resort. . Our mortality for this period was 58 per cent. of forty-one cases, twenty-four of which were treated without operation, the percentage results in the operative and non-operative cases being the same. The average age of the patients was seven and six-tenths weeks, and the average weight at first examination was seven and seven-tenths pounds.

Turning now to the final results in the operative cases we will first consider those after gastro-enterostomy. Of the twenty who recovered, one died two weeks and one four weeks after operation, of entero-colitis; one died after four months, of diphtheria; one after two years from accident and one was lost sight of. The remaining fifteen patients have been followed up to the last few weeks. One seen after eleven and a half years is a well-grown, normal boy. Four were followed for from four to five and a half years; all were then quite well, but one had suffered from occasional attacks of vomiting up to his third year. Of eight followed for two to two and three-quarter years all were strong and healthy; but one suffered from vomiting attacks for nearly a year after operation. Judging from histories of these patients the operation of gastro-enterostomy in no wise interferes with the normal growth and development of children.

The Rammstedt cases have necessarily been observed for a much shorter time; but long enough to establish the fact that this operation does relieve the obstruction at once and completely. Of the fifty-one infants who recovered, five died subsequently; three of the infants within two months after operation of causes connected with the digestive tract. One of these was discharged in good condition on the thirteenth day but died of marasmus five weeks later. Another also discharged in good condition died four weeks later of marasmus at home, the mother having lost her milk. The third did well for nine days, was upset by over-feeding and died of gastro-enteritis on the twenty-fifth day after operation. In none of these could the operation be assigned as a cause of death. Two other infants entirely recovered from their gastric condition but died from respiratory infections later; one of empyema three months, and one of pneumonia four months after operation.

The remaining forty-six infants have been followed up to the last few weeks. Many of them have been seen by me personally, others by some member of the hospital staff. From the remainder who live at a distance reports by letter have been received from parents or the family physician. The time elapsing from the operation to the date of last report is as follows:

In four cases between two years, two months, and three years.
In fourteen cases between one year, six months, and two years.
In twelve cases between ten months, and fifteen months.
In eleven cases between five months and eight months.
In five cases between one month and four months.

When seen these children were almost without exception in the best of health; they were plump and rosy-cheeked, nearly all above average weight, and as fine a group as one would care to see.

Our experience, I think, warrants the conclusion that the Rammstedt operation meets the indications in this condition. If this simple procedure does this, then there is no longer any justification for the other more serious surgical procedures which have been employed in the past. Our mortality was only about half that which followed the operation of gastro-enterostomy. The statistics here quoted hardly represent what may be expected when this operation is done on private patients and done early.

CONCLUSIONS.

(1) Hypertrophic stenosis of the pylorus in infancy is a pathological entity. It should not be confused with other pathological conditions which may be accompanied by vomiting and occasional gastric peristalsis.

(2) Many of the milder forms recover with only medical treatment.

(3) All those which do not improve under such treatment in the course of two or three weeks, and the more severe types in a much shorter time, should be treated surgically.

(4) The symptoms which indicate surgical intervention are rapid loss in weight, persistent vomiting, and forcible, gastric peristalsis; the presence of a palpable tumour and abnormal gastric retention aid much in diagnosis.

(5) The X ray reveals nothing of importance which cannot be discovered by a study of gastric retention and without its dangers.

(6) The cases which come under observation after four or five weeks of vomiting and marked loss in weight are best treated by operation as soon as the diagnosis is established.

(7) The earlier operations of gastro-enterostomy, divulsion, pyloroplasty, etc., were unduly severe and prolonged; they should be abandoned for the simple external division of the circular muscular fibres proposed by Rammstedt.

(8) Results by the same operator, upon the same class of cases in the same institution and with the same treatment show the great superiority of the Rammstedt operation to gastro-enterostomy and to medical treatment.

(9) Cases of gastro-enterostomy followed from four to eleven years indicate that growth and development are not impaired by the operation.

(10) Cases followed two and three years after the Rammstedt operation show no interference with health and progress.

(11) Cases not operated on usually show no symptoms after the first year. Yet the possibility that this condition may be the basis of pyloric obstruction in later life undoubtedly exists.

ACQUIRED SYPHILIS IN INFANTS WITH REMARKS ON CRÈCHES.

By George Pernet, M.D.,

Dermatologist to the West London Hospital.

I have recently had under my care two cases of acquired syphilis in infants, which are of some interest at the present moment from several points of view.

The first case was that of a male infant, aged 18 months, who came under observation in my out-patients on February the 23rd, 1917 (N. 4615). The duration of the skin trouble was fourteen days, and it had begun about the buttocks as "boils," so the mother described them, one on each buttock. When I saw the child, the skin was more or less generally involved from head to foot with the exception of a few areas here and there, which were normal in appearance. The type was that of a generalised dermatitis exfoliativa, but the tint was sombre and dull, and as far as one could judge the affected areas appeared to be infiltrated, which made it suspicious. About the head and face there were numerous dirty thickened adherent scales, the skin looking cracked, especially about the naso-oral region. The rest of the eruption was also more or less scaly, the squamæ being rather adherent. Altogether the picture did not fit in with what has been described as dermatitis exfoliativa neonatorum, the age of the child and the appearances being against that diagnosis, and made one instinctively think of syphilis. *Ça sentait la syphilis,* as the French would put it. Otherwise the child appeared well nourished and cared for.

The mother had had nine children, but no miscarriages. There were scars about her breast from old mammary abscesses.

The infant was admitted to our Hull ward for children for further observations, a superfatted linimentum calaminæ being ordered in which the patient was to be wrapped up. When next seen three days later, a characteristic superficial infiltration of the skin *en nappe* could be plainly made out about the thighs. This had spread down them from the buttocks. Such a condition is not unusual in congenital syphilis neonatorum. But at 18 months, there could be no question of congenital syphilis, the whole trouble pointing definitely to acquired syphilis. In congenital syphilis the earliest symptoms occur, as a rule, within the first three months of life, though some observers have extended this period to six months and more. But that is not my experience. It is more probable that recorded syphilitic rashes starting as late as six months after birth were really of accidentally acquired origin and that point missed. Usually the cutaneous manifestations of congenital syphilis show themselves in the first month or two of separate life. As to dermatitis exfoliativa neonatorum that condition is erythematous and occurs in the first few weeks of life, generally terminating fatally.

The child was at once put on pulv. hydrarg. c̄ creta gr. i ter die, p.c., and the areas, which were still thickly scaly, especially the head and face, were soaked in olive oil. A few days later, the infant was found to have improved considerably all round and did better and better as time went on, the skin becoming pale and smooth, and the features recognisable. Unfortunately, owing to an outbreak of measles, the ward had to be closed. A week or two after this, and no doubt owing for one thing to the severe cold weather, the child was brought to my out-patients looking very ill and fighting for breath, though the face itself, from my point of view, was quite clear. The case was referred to the medical clinic and turned out to be a lobar pneumonia. Unfortunately again, the child could not be taken in owing to lack of accommodation.

I may add that the mother's Wassermann was negative. The child's was not done. But there is no doubt at all in my mind about the syphilitic nature of the rash in his case from the clinical aspect. The immediate improvement and clearing up of the skin under mercury supported that opinion.

Whether in this infant, the original lesions on the buttocks, which the mother referred to as "boils," were primaries is possible, though nothing definite could be made out in this direction when the infant was first seen owing to the mess it was in, nor later when the accumulated and thickened scales had been removed. The primary infection may have taken place by some other channel which remained undiscovered. Even in adults, a primary chancre cannot always be found in undoubted secondary syphilitic rashes.

The second case was that of a male infant, aged 9 months (N. 4790). The mother stated the rash had commenced on the arms, face, and fingers three months before bringing the child to my clinic on April the 3rd, 1917. She had been using sulphur ointment. There were, however, no indications of scabies. The rash about the neck and body was papulo-macular and typical of acquired secondary syphilis as observed in older patients. The peri-anal region was involved, presenting small circular ulcerations, quite syphilitic in aspect and not like the lesions of Jacquet's *Erythème érosif des nouveau-nés.* The cry of the infant was distinctly hoarse and had been so for three weeks. Occipital, inguinal and left epitrochlear adenitis was present. The picture was that of acquired syphilis, but no sign of a primary sore could be discovered. A negative point of that sort, however, counted for nothing in the face of the typical and obvious objective positive signs.

The Wassermann in the mother was negative. Nor could any syphilitic symptom, old or recent, be discovered about her. The Wassermann in the infant was positive, which was to be expected. Had it been by some chance negative, I should have disregarded that, for the diagnosis of syphilis was undoubted on clinical grounds. The infant did well on pulv. hydrarg. c̄ creta gr. i.t.d., p.c.

I need not here discuss the matter of the age of the patient anew, having already done so in connection with the first case described.

A matter of first importance in cases of acquired syphilis in infants is to warn the mother not to put the child to the breasts to comfort it and still its cries, nor *à fortiori* to go on suckling the baby, especially as lactation is in hospital practice apt to be prolonged beyond nine months. In this case, fortunately for the mother, the child was not being breast-fed.

I may say that it is a long time since I have come across a primary chancre of the maternal breast, but in such times as we are passing through an origin of that kind may come under observation.

An infant with acquired syphilis accidentally contracted in some way or other may become a danger not only to its mother, but to others also. Motherly good samaritans may put a strange infant to their breast. This is not unusual among the poor as I know from experience of the sad results. Again, syphilis contracted in this way by a stranger may be conveyed to her own baby and to her husband, thus establishing a vicious circle of infection, and maybe giving rise to a house or home epidemic where there is over-crowding and great promiscuity among the members of a family.

Now a word as to crèches. At the present time, crèches are being established *urbi et orbi* in order to release the mothers for ammunition and other work. It therefore behoves those in charge, many of them no doubt well-meaning volunteers, who have little or no knowledge of the ways in which syphilis may spread from one individual to another, either directly or indirectly, to be on their guard. There is a danger of infection from babies suffering from congenital or from acquired syphilis as in the two cases I have just described, being communicated not only to other babies, but to the attendants also unless these are warned of the danger and trained to avoid it. Teats, feeders, the so-called baby's comforter and so forth, must not be bandied about from one child to another. An infant suffering from syphilis should have its own things and the nurses should wear rubber gloves when attending to it. But better still, infants with active syphilis should not be admitted to crèches at all. This a council of perfection. The mothers of such infants, or those in charge of them, should be plainly told of the dangers of infection, especially if the babies have to be confided to the care of others to release the mother for work outside her home.

THE TREATMENT OF ENLARGED CERVICAL LYMPH-NODES IN CHILDREN. A PAPER FOR THE GENERAL PRACTITIONER.

By Charles Greene Cumston, M.D.,

Privat docent at the University of Geneva; Honorary Member of the Surgical Society of Belgium, Fellow of the Royal Society of Medicine (Lond.), Member of the Surgical Society of Switzerland, etc.
Geneva, Switzerland.

It is of the utmost importance to make an exact diagnosis of the nature of enlarged cervical lymph-nodes in children, because the appropriate treatment will naturally differ according to the ætiology of the enlargement. If one finds a single enlarged lymph-node it is more than probable that some irritative causal factor is in play, and by searching for and removing this element, the gland will return to its normal state.

Enlarged lymph-nodes in the neck due to some local cause, whether they assume an acute or chronic evolution, require the same treatment. The head and face of the child must be maintained in a state of absolute cleanliness. Parasites require an energetic cleansing of the scalp with a 1 in 500 solution of sublimate, after which the scalp is to be rubbed with grey ointment or camphorated alcohol and the ova removed by the applicatien of hot vinegar and a fine toothed comb.

Should there be an eczema of the scalp the diet must be regulated and it will generally be found to be too plentiful. Locally, the scalp must be cleaned and antiseptically dressed with compresses wetted with tepid boracic acid solution. Ointments of zinc oxide, and salol in which vaseline or starch glyceride as excipients are used are bad from the fact that they keep up a constant humidity of the parts to which they are applied and consequently favour the extension of the process in cases of moist eczema. Therefore, it has been my practice to use in their stead powders of an inert nature, such as talc, salol, etc.

Lacrymal fistula demand the care of the ophthalmic surgeon, while facial erysipelas and mumps are to be treated according to modern practice in such cases.

The stomatitides require above all a strict diet, which for a few days should be liquid. Buccal antisepsis is easily carried out, the subject being made to gargle several times daily with a saturated solution of boracic acid or some solution such as the following:

℞. Potass. chlorat., 2 to 5 grm. (according to age).
Syr. rub. id., 30 grm. (℥j).
Aquæ, 110 grm. (℥iv).

M.D.S. A dessertspoonful to be gargled and swallowed every two to three hours.

Disturbances of dentition are mitigated by buccal antisepsis. Loose or decayed teeth should be removed, the operation of extraction being an easy matter in these cases, without the use of local anæsthesia.

The fever present in these cases can be well kept in check by the use of suppositories containing from three to four grains of either quinine sulphate or acetanilide. If the child is restless or if there be insomnia, one to two grains of chloral may be added to the suppository. Rest in bed is necessary, and the child should be submitted to a milk diet. A soap-sud or glycerine enema is to be administered if there is constipation.

Locally one should resort to revulsion, such as tincture of iodine, and if there be a slight angina proper gargles are to be exhibited.

Chronic angina, usually characterised by an hypertrophy of the tonsils, is to be treated by cod-liver oil, a stay at the sea-side or at spas having chloride or sulphurous waters, but above all a local treatment is requisite. All therapeutics should give place to removal of the affected organs, but such surgical interference must be preceded by a careful antisepsis of the buccal, nasal and pharyngeal cavities. This may be left to throat specialists, although I must confess, their therapeutic acumen has left much to be desired in the past.

Enlarged cervical lymph-nodes due to some general cause, such as the exanthemata, or any other acute process, require no particular treatment. When painful, hot compresses and oil inunctions will calm the discomfort. On the contrary, chronic adenitides must be seriously treated, and I shall now consider them in turn.

Tuberculous adenitis, which I believe must be looked upon, not as a purely local lesion, but as a defence set up by the organism against a generalised infection by Koch's bacillus, cannot be properly treated by limiting oneself to the care of the enlarged lymph-nodes themselves, and it is absolutely necessary to act against the general infection.

Assuming that this is the correct view of the process, one must first carry out a general treatment which will result in favouring the defensive reactions of the organism; and, secondly, a local treatment which will act directly on the lymph-nodes, to aid forthwith in modifying their absorption.

The general treatment has for its principal handmaid a climatic cure. The child should be sent to the sea-side and there remain as long as possible, let us say several months. He should live out of doors all the time. Sea baths, or sand baths ought to be taken twice daily, while sun baths must be indulged in frequently and lengthily. They are to be most highly recommended. I need not insist upon the excellent results obtained.

When it is impossible to send the child to the sea-side, one may very well prescribe a treatment of mineral waters, such as Salies-de-Béarn or Salins-Montiers, which will undoubtedly be found of great efficiency in such cases. Unfortunately, I am not familiar with the English spas, but there are waters in Great Britain which will, naturally, take the place of those of France. In some cases it will be advantageous to combine the two treatments, paticularly when the child presents a marked general atony when salt-baths alone are not sufficient to cause an improvement in the local conditions. But when the two treatments are combined the general health improves more rapidly and the lymphatic lesions rapidly regress.

Excellent results may be obtained by the local application of compresses soaked in water containing sodium chloride. The length of time of application and the temperature of the compress must be guided by the effects obtained in each particular case.

Sea water is very valuable in the treatment of tuberculous adenitis. It decreases the nitrogen changes, likewise the co-efficient of oxidation. The effect is just the contrary to mineral water baths having salt as a basis which increase the nitrogen changes and oxidation. Sea-water baths are advantageously given when the subject presents phenomena of intense combustion, with or without azoturia.

If the lymph-nodes are moveable and hard, salt water baths are indicated, instruction being given to the nurse to see that the child's neck is completely immersed, in order to obtain both a local and general action. According to the way the subject reacts a hot or cold general shower-bath may be added.

If the lymph-nodes are adherent to the surrounding structures or if they are progressing towards suppuration surgical interference is indicated. If the subject comes under treatment after the glands have broken down and have discharged their contents, leaving fistulæ as a result, I know of no more efficient treatment than that of the sulphur waters of Schinznach-les-Bains in Switzerland, and I have observed some really remarkable cures obtained at this spa in these particular cases.

The use of proper drugs must not be overlooked, such as the cacodylate of sodium. Cod-liver oil is of great benefit, likewise the phosphoglycerites. The former may be combined with other drugs as in the following formula:

℞. Ol. jecor. aselli, 500 grm.
Syr. ferri. iodid., Q.S., according to age.
Glycerini, 100 grm.
Sodii arseniat., 3 grm.

M.D.S. Three to four dessertspoonfuls daily, according to the age of the child.

I have also obtained good results from the administration of the *sirop iodo-tannique* of the French Codex. Its composition is:

Iodine, 2 grm.
Tannin, 4 grm.
Aq. dest., 360 grm.
Sacchar. alb. 640 grm.

Of this from two to four dessertspoonfuls daily according to age.

The following combination is good:

℞. Ol. jecor. aselli.
Syr. calcii lactophosphat.
Glycerini, āā, 100 c.c.

M.D.S. Shake well. Three to four dessertspoonfuls daily.

I do not think that treatment by the various tuberculins has given sufficient evidence of good results as to advise their use in these cases.

As to local medication when the lymph-nodes are very large or have undergone caseification, heliotherapy, or injections of camphorated naphthol or camphorated thymol are useful. But from the purely surgical standpoint I cannot but believe that a properly conducted removal by operation will give the best results and is the treatment to be advised.

Opinion varies as to the proper treatment of *lymphadenoma.* Those who maintain the theory of a lymphogenous diathesis advise the use of arsenic and iodide of potassium. I shall return to this question in a moment.

On the other hand, those who look upon lymphadenoma as a special disease of an infectious nature resort to surgical interference. But the complete removal of the masses of enlarged lymph-nodes can only be undertaken when these masses are not too numerous. If they are extensive or generalised the surgeon could not dream of removing them all and therefore the administration of internal remedies must be had recourse to, and I am particularly a partisan of the use of injections of Fowler's solution or cacodylate of sodium.

Leukæmia requires a substantial diet and life in the open or at the sea-side. Cod-liver oil and Fowler's solution, iodine or the iodides, and injections of normal saline solution are indicated, and from the result obtained by Combe of Lausanne, I should not hesitate to prescribe the administration of fresh bone-marrow of cows or calves.

Lymphosarcoma is a purely surgical affection and need not be discussed in this short paper, the object of which has been to consider the treatment of cervical adenitis in children from the view-point of the general practitioner based on the experience of a surgeon.

CEREBRAL DEGENERATION AND EPILEPTIFORM FITS, WITH AMAUROSIS, IN AN ONLY CHILD.*

By F. Parkes Weber, M.A., M.D., F.R.C.P.Lond.

The patient, T. L—, aged 6¾ years, is a fairly well-grown girl, born in London, the only child of Hebrew parents. The father was born in Russia and the mother in Russian Poland. The child is somewhat mentally deficient, subject to occasional slight epileptiform convulsions, and almost completely blind in both eyes. She can probably only distinguish light from darkness. Dr. C. Markus has examined the eyes carefully, and reports as follows: "The retinal blood-vessels are extremely small (narrow); the optic discs are uniformly pink, slightly pale, but not definitely atrophic; the maculæ luteæ appear as small red-brown spots and are not distinctly abnormal. The vessels and optic discs resemble what one sees in cases of retinitis pigmentosa, but the characteristic pigmentary change of fully-developed retinitis pigmentosa is altogether absent."

There is no evidence of disease in the thoracic and abdominal organs, and the urine is free from albumin and sugar. Nor are there any signs in the child of congenital syphilis, excepting that the blood-serum (Dr. H. Schmidt, March, 1917) gives a *weakly* positive Wassermann reaction; the reaction was, however, apparently found to be negative on a previous occasion at another hospital. Moreover the cerebrospinal fluid (March, 1917) gives a negative Wassermann reaction. The knee jerks are present.

---

* The patient was shown at the Royal Society of Medicine, Section for the Study of Disease in Children, March the 23rd 1917.

As stated above, the patient is the only child, and apparently the mother has been only once pregnant. The mother, aged 31 years, seems to be well; her Wassermann reaction (March, 1917) is doubtful. The father, aged 33 years, also looks well, his sight is not deficient, and the ophthalmoscopic appearances in his eyes are normal (Dr. C. Markus). He claims to have enjoyed good health and never to have had any venereal disease, but his Wassermann reaction (March, 1917) is weakly positive. The patient's paternal grandfather, a well-developed man, aged 58 years, is blind in both eyes. The blindness developed eighteen years ago, and there is bilateral optic nerve atrophy (Dr. C. Markus). In other respects he has enjoyed good health, but his blood-serum gives a positive Wassermann reaction (Dr. H. Schmidt, March, 1917).

The patient is said to have been a bright and intelligent child up to the age of 5 years. Her tonsils were excised at the age of 3 years, and her bowels always tended to be confined. After the age of 5 years signs of cerebral degeneration commenced; she lost the power of memory and her speech deteriorated. About May, 1916, she commenced to suffer from transient "fits," and soon afterwards her sight was found to be failing. According to her mother she could see quite well nine months ago, but then her visual power gradually diminished, and for the last four months she has been almost blind. The "fits" are transient epileptiform, of the "petit mal" kind, lasting about "a couple of moments." The patient is observed to "turn her eyes," and there are convulsive movements of the body, but no involuntary passage of urine or fæces has been observed in connection with the fits. After them she appears tired and sleepy. Ten or eleven such fits were observed up till the end of the year 1916. Since then only one has been noted—namely, about the commencement of February. The mother attributes the diminution in the fits to medicinal treatment, which was commenced in August, 1916. Mercurial inunction is now to be tried (March the 16th, 1917).

REMARKS.

In spite of the absence of definite macular changes and of family history, the case may be allied to F. E. Batten's second group of maculo-cerebral degeneration. The *first group* includes the cases of the Tay-Sachs type of so-called "family amaurotic idiocy," occurring in infancy and practically exclusively in Hebrew families, though E. A. Cockayne and J. Atlee have recently (1915) described an apparently typical case in an English male child, aged 1 year. Batten's *second group* is the group of "juvenile progressive cerebral degeneration with amaurosis, with or without macular and retinal changes," including the cases of "family maculo-cerebral degeneration," and of the so-called "juvenile form of family amaurotic idiocy," the various cases of Spielmeyer, Mülberger, Vogt, Bielschowsky, Mayou and Batten. The main features of Batten's second group are loss of intellectual faculties, loss of vision, and loss of motor power; but the symptoms vary in the order in which they appear, in the age at which they first appear, and in the rapidity of progress; no special racial proclivity has been observed, such as there is in the Tay-Sachs type of family amaurotic idiocy.

In regard to a possible relationship between Batten's second group of maculo-cerebral degeneration and retinitis pigmentosa, I would refer to the remarks of M. S. Mayou, R. D. Batten, and others, in the discussion on a case of "pigmented degeneration of the retina, associated with epileptic fits," shown by F. E. Batten at the Section of Ophthalmology on November the 1st, 1916. In retinitis pigmentosa, which may be familial, and may also be associated with idiocy or deaf-mutism, the symptoms may commence in early childhood, or possibly even congenitally. The ophthalmoscopic appearance is characterised at the commencement by narrowness of the retinal arteries and veins, and by a look of "greyness" in the retina; the characteristic spots of pigmentation in the retina are not seen at first, and in some "atypical" cases never appear at all. A certain resemblance of the ophthalmoscopic appearance in the present patient to that observed in early retinitis pigmentosa has been noted above.

In the present case, although antisyphilitic treatment is being tried, I hesitate to attribute the condition to syphilis. The fact of the child being of Hebrew parentage has probably no connection with the disease. The negative Wassermann reaction with the patient's cerebrospinal fluid is against the diagnosis of commencing juvenile general paralysis, or of syphilitic disease at the base of the brain.

BIBLIOGRAPHY.

ASHBY, H., and STEPHENSON, S.—"Acute Amaurosis following Infantile Convulsions," 'Reports Soc. for the Study of Disease in Children,' London, 1903, iii, p. 197.

BATTEN, F. E.—"Family Cerebral Degeneration with Macular Change (so-called

Juvenile Form of Family Amaurotic Idiocy," 'Quart. Journ. Med.,' Oxford, 1914, vii, p. 444.

Idem. "Case of Pigmented Degeneration of the Retina associated with Epileptic Fits," 'Proc. Roy. Soc. Med.,' 1917, x (Sect. Ophthal.), p. 3.

BATTEN, F. E., and MAYOU, M. S.—"Family Cerebral Degeneration with Macular Changes,' 'Proc. Roy. Soc. Med.,' 1915, viii (Sect. Ophthal.), pp. 70–90.

BIELSCHOWSKY.—'Deutsch. Zeitschr. f. Nervenheilk.,' 1913, l, p. 7.

COCKAYNE, E. A., and ATTLEE, J.—"Amaurotic Family Idiocy in an English Child." 'Proc. Roy. Soc. Med.,' 1915, viii, (Sect. Ophthal.), p. 65

MÜLBERGER.—'Münch. med. Wochenschr.,' 1903, l, p. 1968.

OATMAN, E. L.—"Maculo-Cerebral Degeneration (Familial)," 'Amer. Journ. Med. Sci.,' Philadelphia, 1911, cxlii, p. 221.

SPIELMEYER.—'Neurol. Centralbl.,' 1906, xxv, p. 51.

TAY, WAREN.—'Trans. Ophthal. Soc. U.K.,' London., 1881, i, p. 56.

VOGT, H —'Monatschr. f. Psych. u. Neurol.,' 1905, xviii, p. 161 ; 1907, xxii, p. 403 1908, xxiv, p. 106.

LIPODYSTROPHIA PROGRESSIVA IN A MALE.*

By F. PARKES WEBER, M.A., M.D., F.R.C.P.Lond.

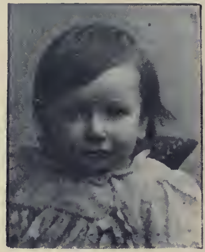
THE patient, J. H—, aged 13 years, born in London, of English parentage, was moderately fat in the face and body till the age of 8 years. He then began to look thinner in the face, though in other respects he continued to appear and feel perfectly well. The loss of subcutaneous fat gradually progressed, and for the last three years there has been practically no fat left in the face and neck excepting in the orbits. The arms, thorax, and abdomen are to some extent affected in the same way, but on the gluteal regions and lower extremities the fat covering is fairly good. The mother, indeed, thinks that the boy has lately been putting on fat in the buttocks and thighs. The illustrations (see figs. 1 to 3) show his appearance at the age of 1 year, at the age of 7 years, and as he now is (aged 13 years). In other respects there is not much to be said. There are no signs of disease in the heart, lungs, or abdominal organs. The urine is free from albumin and sugar. He is of quite average intelligence, and presents no symptoms of disease in the nervous system. In March, 1913, he underwent a radical mastoid operation for middle-ear disease (right side), and in January, 1916, an aural polypus was removed from the same ear. There can be no doubt that the case is a typical one of lipodystrophia progressiva. The aural disease might have been supposed to have acted as an exciting cause if it had preceded the fat atrophy in the face, but according to the mother the fat atrophy was noticed before the onset of any obvious ear disease.

---

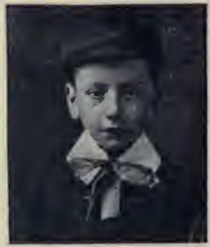
* The patient was shown at the Royal Society of Medicine, Section for the Study of Disease in Children, April the 27th, 1917.

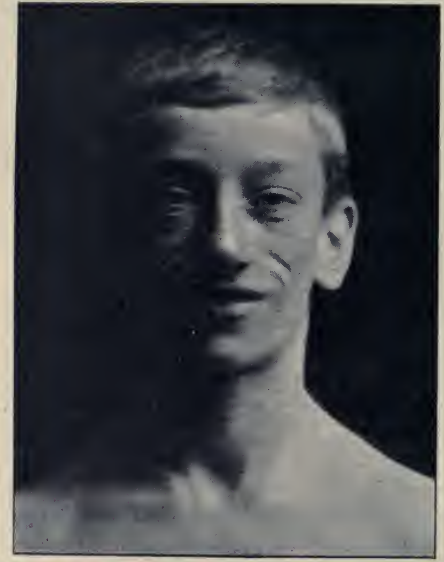
It should be mentioned that the atrophy of subcutaneous fat in the upper part of the trunk has produced a condition of what is known as "elastic skin," that is to say, a fold of skin can be stretched out abnormally far from the bony and muscular wall of the thoracic cage without causing discomfort or pain. To such a condition of "elastic skin" the ambiguous term "dermatolysis" has sometimes been applied. It would be interesting to know whether any of the so-called "elastic-skinned men" were likewise examples of "lipodyatrophia progressiva."

(1)



(2)





(3)

Fig. 1.—The patient, J. H—, at age of 1 year.
Fig. 2.—The same patient, aged 7 years.
Fig. 3.—The same patient, at present time, aged 13 years.

The boy's father and mother appear healthy. The mother has had three children and two miscarriages. Both the other children are living and healthy (aged respectively 14½ years and 11 years).

I am indebted for the case to the kindness of Dr. C. E. Lakin and Dr. E. A. Cockayne.

Dr. E. A. Cockayne has likewise given me particulars of another case of lipodystrophia progressiva in a male. The boy, when he saw him in Chelsea in 1914, was aged about 11½ years, and felt perfectly well, but the doctor of the school had sent him up for special examination on account of the extraordinary thinness of his face. This wasting of the subcutaneous fat had commenced two or three years previously, that is to say, when he was aged about 9 years. He appeared otherwise healthy. There was no glycosuria. The trunk and limbs, though thin, did not show the extreme loss of subcutaneous fat that was noticeable in the face. He was fairly muscular and the deeper structures of the face were not wasted. Unfortunately the patient has been lost sight of, but I think the case was probably one of lipodystrophia progressiva.

In my last paper on the subject (13) I included a table of published

LIPODYSTROPHIA PROGRESSIVA.

TABLE OF CERTAIN OR PROBABLE CASES IN MALES.

The numbers in parentheses refer to the literature on the subject given at the end.

Reference.	Age of patient when the affection was first noticed.	Age of patient when the case was described or last seen.	Parts affected by the fat atrophy.
Present case . . .	8 years	13 years	Face, neck, and trunk.
E. A. Cockayne, recorded in the present paper	About 9 years	About 11½ years	Chiefly the face.
Gerstmann (10) . .	10 years	32 years	Face, neck, upper extremities, and trunk as far as the pelvic bones (inguinal folds folds and the iliac crests).
Gerhartz (11) . . .	6 years	29 years	
Husler's first case (8 and 9)*	6 years	10 years	Face.
Husler' second case (8 and 9)	6½ years	9 years	Chiefly the face and neck.
Hertz and Johnson, first case (5)	24 years	26 years	Face and neck.
Hertz and Johnson, second case (6)	About 37½ years	38 years	Face.
Batty Shaw (4) . .	2½ years	10 years	Face.
J. S. Bury (7) . . .	?	Youth	Face.

---

* This patient died about three years later, in his fourteenth year, of epidemic cerebro-spinal meningitis. At the necropsy his thymus gland was found still present, but otherwise, excepting for the fatal meningitis, the result of the post-mortem examination was practically negative.

cases of lipodystrophia progressiva in females, and I now give a table of male cases, including several cases of so-called "bilateral facial atrophy," in which the atrophy seems to have been confined to the subcutaneous fat. As to whether lipodystrophia progressiva may occur in a unilateral form or not I made the following observation in the discussion on my last paper:

"Since in certain cases of facial hemiatrophy the atrophic process has, I think, been supposed to be limited to the subcutaneous fat, it is just conceivable that such cases of hemiatrophy of the face (if the atrophy does not later on involve tissues other than the subcutaneous fat) may represent *minor* and *unilateral* forms of lipodystrophia progressiva, though such forms might not of course, strictly speaking, be termed progressive."

LITERATURE ON LIPODYSTROPHIA PROGRESSIVA.

Further references will be found in my last paper (13).

(1) A. SIMONS.—'Zeitschr. f. d. ges. Neur. u. Psych.,' Berlin, 1911 (Originalien), v, p. 29; EUGEN HOLLÄNDER, 'Münchener med. Wochenschr.,' 1910, lvii, p. 1794. Excellent illustrations of the same case and other cases are given by C. Herrman, of New York, 'Arch. Intern. Med.,' Chicago, 1916, xvii, pp. 516-524.

(2) H. CAMPBELL.—'Trans. Clin. Soc. Lond.,' 1907, xl, p. 272. See also H. Campbell, Proc. Roy. Soc. Med.,' Neur. Sect., 1913, vi, p. 71.

(3) F. PARKES WEBER.—*Ibid.*, 1913, vi, pp. 127-133.

(4) H. BATTY SHAW.—'Trans. Clin. Soc. Lond.,' 1905, xxxviii, p. 222.

(5) HERTZ AND JOHNSON.—'Proc. Roy. Soc. Med.,' Clin. Sect., 1913, vi. p. 92.

(6) *Ibid.*, 1914, vii, p. 11. See also Hertz and Johnson, "Two Cases of Bilateral Atrophy of the Face," 'Guy's Hosp. Repts.,' Lond., 1913, lxvii, p. 112.

(7) JUDSON S. BURY.—"Diseases of the Nervous System," Manch., 1912, p. 267, fig. 102.

(8) J. HUSLER.—'Zeitschr. f. Kinderheilk.,' Berlin, 1914 (Originalien), x, p. 116.

(9) A. SIMONS.—"Bemerkungen zur Arbeit J. Huslers," 'Zeitschr. f. Kinderheilk.,' Berlin, 1914 (Originalien), xi. p. 508.

(10) J. GERSTMANN.—'Wien. klin. Wochenschr.,' 1916, xxix, p. 1209.

(11) H. GERHARTZ.—'Münch. med. Wochenschr.,' 1916, lxiii, p. 823.

(12) F. PARKES WEBER.—"Lipodystrophia progressiva," 'Quart. Journ. Med.,' Oxford, 1917, x, p. 131.

(13) *Idem.*—"Lipodystrophia progressiva," 'Proc. Roy. Soc. Med.,' Sect. for the Study of Dis. in Child., 1917, x, p. 81, and BRITISH JOURNAL OF CHILDREN'S DISEASES, 1917, xiv, p. 81.

CONGENITAL WORD- AND LETTER-BLINDNESS—CONGENITAL ALEXIA, WITH AGRAPHIA, WITHOUT APHASIA.*

By F. Parkes Weber, M.A., M.D., F.R.C.P.Lond.

The patient, O. H. S—, aged 10 years, a bodily well-developed boy, of apparently average intelligence, has had great difficulty at school because he can practically not read or write. He has, indeed, gradually learned to read and write a few letters of the alphabet, notably the first two or three letters, but he often makes mistakes, for instance, he often says that the letter "D" is "B." As in some other cases, it seems to make no difference whether the letters are small or capital letters, printed or written. He has learned to read and write Arabic numerals relatively well, and this corresponds to the observations of James Hinshelwood and others, that the recognition of Arabic numerals is readily acquired in cases of congenital word-blindness. When one tells him to write down his age (9 years), he at once writes down 9, as an Arabic numeral, but cannot write the word *years* after it. He can add up figures a little, but is certainly extremely backward for his age in arithmetic. He has learned to write his own name, and can recognise his name when someone else writes it. In regard to most words, however, when he tries even merely to copy them, he often makes mistakes, and copies them without understanding what they mean. He recognises objects and pictures of objects, and the meaning of pictures and picture-stories. There is no word-deafness and no aphasia. He pronounces words well and talks fluently, if he is not shy, and has learned to recite and sing various songs.

Dr. R. Gruber, to whom I am indebted for the case, reports that the patient's eyes (including ophthalmoscopic appearances) and vision are quite normal. He is not colour-blind.

The patient's mother says that she, as a child, was somewhat backward in learning to read. She has had only one other child, a boy now aged 8½ years, who is not word- or letter-blind.

I find nothing abnormal in the patient's thoracic and abdominal organs, nor in the urine, sexual organs, mouth, or nervous reflexes. The Wassermann reaction (Dr. H. Schmidt, April, 1917) in the patient is positive. In his mother and brother it is likewise positive. The bridge of the brother's nose is somewhat depressed. His father died at the age of 37 years in a lunatic asylum (general paralysis?). His mother looks healthy, and has had no miscarriages (she has only twice been pregnant).

---

* The patient was shown at the Royal Society of Medicine (Section for the Study of Disease in Children), April the 27th, 1917.

The case seems to be very similar to Dr. T. R. Whipham's case of "Congenital Word- and Letter-Blindness," lately shown before this Section,* but Dr. Whipham's patient was a girl (aged 8 years), and out of sixty-four recorded cases to which he alludes only seventeen were in females. I shall not here go over all the points so recently discussed by Dr. Whipham. His case, moreover, resembled the present one in giving a positive Wassermann reaction; but it is doubtful whether there can be any direct relationship between inherited (congenital) syphilis and conditions allied to congenital word-blindness, though it is supposed by some authorities that a congenital syphilitic taint favours disorders of growth and development.

An interesting feature in the present case is that apart from the word-blindness the boy seems intellectually almost normal, so that he is an even better example of pure word-blindness than is Dr. Whipham's case. Such children may ultimately manage to make themselves useful in life. Dr. G. E. Shuttleworth has told me that one of his former patients, a boy, was afterwards able to work in a green-grocer's shop and do his work well.

I do not know whether any special method of teaching is possible in very pronounced cases, apart from oral instruction.†

The correct diagnosis of the condition in these cases is often not made till late. In the present patient, as far as I know, the diagnosis was due to the school authorities having recently sent him up to have an examination made of his eyes and vision.

According to Bastian's views on Aphasia ‡ deficiency in children in regard to speech and reading may be classified somewhat as follows:—

(1) Deficiency due to general mental causes and mental dulness and imperfect psychical development.

(2) Defective speech caused by defects in the outer air-passages—nose, pharynx, etc.

(3) Word- and Letter-Blindness, as in the present case, due to defects in "visual memory" of letters and words.

---

* T. R. Whipham, 'Proc. Roy. Soc. Med.,' 1916, ix (Sect. for the Study of Dis. in Child.), p. 8; and Brit. Journ. Child. Dis., Lond., 1916, xiii, p. 33.

† But see James Hinshelwood, "The Treatment of Word-Blindness, Acquired and Congenital," 'Brit. Med. Journ.,' 1912, ii, p. 1033.

‡ *Cf.* H. C. Bastian, 'Treatise on Aphasia and other Speech Defects,' London, 1898.

(4) Word-Deafness, due to defects in "auditory memory." Some cases of this group seem to be partly due to local aural causes (R. Lake,* W. S. Syme,† Mayo Collier,‡ H. Drinkwater,§ etc.)

(5) Certain cases classed under "idioglossia," etc., which may be due to defective "glosso-kinæsthetic memory." The cortical centres in the brain are not necessarily bilateral, and arrested development on one side may be a cause of imperfect speech.

The terms "word-blindness" and "word-deafness" seem to have been first employed by Kussmaul in 1877, in Ziemssen's 'Cyclopædia of Medicine,' in his long article on "Disturbances of Speech—An Attempt in the Pathology of Speech." Discussing that class of cases (Chapter XXVII), he wrote‖: "This morbid inability we will style, in order to have the shortest possible names at our disposition, *word-deafness* and *word-blindness* (*cæcitas et surditas vevbalis*)." In the diagnosis and differentiation of cases of word-blindness much has been done by the writings (1895–1917) of James Hinshelwood¶

---

* R. Lake, "Deaf-Mutism—An Attempt to Explain the occasional Cure following Removal of Adenoids," 'Treatment,' London, 1899, iii, p. 369.

† W. S. Syme, "A Case of Congenital Word-Deafness," 'Brit. Med. Journ.,' 1904, ii, p. 1229; "Delayed Speech in Children," 'Edinb. Med. Journ.,' New Series, 1907, xxi, pp. 506–512. Syme holds that adenoids may cause "delayed speech" in children, and that their removal by operation may improve speech even when children are twelve or fourteen years old. Syme goes so far as to suggest an explanation for the venerable story narrated by Herodotus, the "father of history," of the son of Crœsus, King of Lydia, who, though from birth he had been unable to speak, suddenly gained the power of speech to beg for his father's life. Syme says there may have been adenoids which atrophied and left an unimpressionable auditory word-centre open to stimulation. The sudden effect of fright may have been to increase the activity of the auditory and motor word-centres.

‡ Mayo Collier, 'Med. Press.,' London, 1902, i, p. 49. The patient was a girl, aged 9 years, whom Collier considered to be an example of acquired deaf-mutism probably due to cerumen. There was rapid recovery of hearing and speech on removal of the wax.

§ Drinkwater at the Liverpool Medical Institution, April the 20th, 1911, demonstrated the case of a girl, aged 14½ years. Until four years previously she had been able to hear normally, but then became deaf as the result of a catarrh, and at the end of six months could not hear spoken words. When Dr. Drinkwater saw her, air-conduction was absent, but some bone-conduction was present. Removal of adenoids and the use of Politzer's bag was followed in two weeks' time by recovery of hearing sufficient to enable her to hear a watch at twelve inches, but she was still word-deaf, and could only repeat a few words, though she could speak, write, and read with comprehension. Re-education of the auditory word-centre was thought by Dr. Drinkwater to be required. (See 'Liverpool Med.-Chir. Journ.,' 1911, xxxi, p. 384.)

‖ Ziemssen's 'Cyclopædia of Medicine,' English edition, London, 1878, xiv, p. 770.

¶ Amongst Hinshelwood's numerous writings on the subject see especially the following: "Word-Blindness and Visual Memory," 'Lancet,' London, 1895, ii, p. 1564; "Congenital Word-Blindness," 'Lancet.' 1900, i, p. 1506; "Four Cases of Congenital to clear up the subject and make it more widely known. Sydney Stephenson,* writing in 1905, remarks: "Diagnosis offers few difficulties if once the fact be grasped that there is such a thing as a congenital inability to read. Confusion, however, might arise when word-blindness co-existed with considerable error in refraction. Even then the history should safeguard us against error, while the fact that the child experienced exactly the same difficulty in reading large as he did small type would be strongly suggestive of the existence of this curious and interesting congenital defect. It may be added that more than one of the case-histories comment upon the fact that the patient never read for pleasure."

A particularly instructive case is one narrated by Hinshelwood in 1904† of congenital word-blindness in a boy, aged 12 years, who was really in every other respect quick and intelligent. "He had no difficulty with arithmetic, and could keep up with the other scholars easily in this department. He was now working at compound addition. His mother said that the other boys laughed at him in the class, and when he became excited his reading was worse than ever. He concealed his defect for a time by learning his lesson by heart, so that when it came to his turn and he got the few words at the beginning he could repeat the lesson by heart." Hinshelwood advised that no further attempt should be made to make the boy read in class, where his mistakes and difficulties excited ridicule, but that the boy should have frequent short lessons by himself. This plan of treatment resulted in splendid progress being made.

Cases of word-blindness may be contrasted with cases of word-deafness, in which an oral question is answered merely by a senseless echo-like repetition of the question, whereas the same question written down before the patient's eyes elicits the correct answer without any delay.

Some cases of defectiveness in speech and reading in children offer rather difficult problems for solution. I will refer to such a case which I was able to follow for a long time. The patient was a boy, F. S—, born on October the 2nd, 1891. According to the history obtained he was healthy and well-nourished in infancy, and before the age of two years had learned to say "father" and "mother" and ask for bread and butter, etc. At two years of age

---

Word Blindness occurring in One Family," 'Brit. Med. Journ.,' 1907, ii, p. 1229; 'Letter-, Word-, and Mind-Blindness,' London (H. K. Lewis), 1900; 'Congenital Word-Blindness,' London (H. K. Lewis), 1917.

* S. Stephenson, 'Brit. Journ. Child. Dis.,' 1905, ii, p. 550.

† J. Hinshelwood, 'Brit. Med. Journ.,' 1904, ii, p. 1303.

he suffered from what his mother termed a "sunstroke," during which he was dangerously ill for a week and had to have ice-bags applied to his head. After this illness his general growth was fairly good, but he could not learn to speak, and remained rather thin. I first saw him in January, 1897, when he was 5 years old, and had him admitted to hospital for a short period of observation.* At that time he could not speak at all, but no other defect could be discovered. When he tried to pronounce a word the sounds he uttered were more like those of a wild beast than of a human being. In 1899 he could understand everything said to him and could answer ordinary questions. He was not left-handed, but used his right hand by preference. He could recognise single Arabic numerals and the letters of the alphabet, but could hardly recognise even short words when shown them on paper. He sometimes made mistakes in writing his own Christian name. He could count and add up simple figures on paper. There was a very decided form of dysarthria or "idioglossia" present, and he likewise was a bad stammerer. A good deal of trouble was taken with him. An open-air life was decided on. The boy developed well and ultimately learned to speak quite normally. He became a gardener and afterwards a chauffeur and was successful. He married about 1914.

In connection with the last case one of Dr. S. Gee's "clinical aphorisms" may be called to mind :† "Boys are sometimes very backward in learning to talk ; but if a boy cannot talk at 4 years of age, he is—with a single rare exception—either deaf and dumb or an idiot. The former alternative can easily be excluded. The exception mentioned is the condition of congenital aphasia." The above case of F. S— was an exception, but whether the condition was one which can be properly termed "congenital aphasia" may be considered doubtful.

On the whole, the most probable explanation of the case of F. S— appears to be that, corresponding to what the mother called a "sunstroke" at 2 years of age, the boy had a relatively mild attack of sporadic cerebro-spinal meningitis, or else of acute encephalitis (that is to say, polio-myelo-encephalitis, recently termed the "Heine-

---

* I gave a short note of his condition at that time in the 'St. Bart.'s Hosp. Reps.,' London, 1898, xxxiv, p. 310. For a later account of the case see Weber, 'Proc. Roy. Med. and Chir. Soc. of Lond.,' 1900, 3rd ser., xi, pp. 111–117. Compare this case also with that described by A. Voelcker, "Arrested Development of the Speech Centre," 'Trans. Clin. Soc. Lond.,' 1900, xxxiii, p. 64.

† "Clinical Aphorisms from Dr. Gee's Wards," 'St. Bart.'s Hosp. Reports,' London, 1896, xxxii, p. 57, No. 256.

Medin disease"). In either case his cerebral cortical speech-centres may have been damaged, so as to cause delay in their development, together with the condition of partial aphasia and dysarthria from which the boy for a long time afterwards suffered. His final recovery may have been partly due to a gradual process of compensation and re-education. It should also be mentioned that at the period when the boy stammered dreadfully, he used frequently to move his right arm convulsively, as if trying to "work up" the cortical centres of the left motor region of his brain, before and during the utterance of any words, *i. e.* when he was saying something or trying to say something.

CASE OF CONGENITAL DEFECT OF THE DUODENUM, IN WHICH BILE WAS FOUND BOTH ABOVE AND BELOW THE ABSENT PORTION.*

By E. A. Cockayne, R.N., D.M., F.R.C.P.

The case occurred in a male child born at full term. There was no history of any similar condition in the family, and the mother was in good health during her pregnancy. At the confinement it was noticed by the medical attendant that the liquor amnii was excessive in quantity and bright green in colour. The child vomited liquid, which resembled the bile-stained liquor amnii, on the second day, and passed meconium of normal appearance. Slight jaundice was noticed on the third day. Vomiting continued at intervals, the vomit being invariably watery and green, but no more meconium was passed. The general condition became gradually worse until death took place on the fifth day.

At the autopsy it was seen that the child was well nourished and without any external malformation. The skin was slightly icteric. On opening the abdomen the stomach was found to be greatly dilated and the first part of the duodenum to end blindly, being greatly distended and globular in outline. The pylorus was visible and palpable as a thickened constriction between these two organs. Some fluid stained with bile was present in the stomach and distended first part of the duodenum. The bile-duct opened directly into the narrow commencement of the lower part of the duodenum, but the pancreatic duct entered the posterior aspect of the blind sac formed by the upper part of the duodenum. The jejunum, ileum, and large intestine were of normal calibre; the cæcum and appendix lay just below the duodenum, and the ascending colon possessed a long mesocolon. There was no connection except by peritoneum between the upper and lower portions of the duodenum; the missing part of the viscus was not even represented by a thin cord. The liver, gall-bladder, cystic duct, hepatic duct, and common bile-duct were normal, and the gall-bladder contained a considerable amount of bile. Meconium of the usual dark green colour was present in the jejunum, ileum, and colon, the largest quantity being in the colon. A very careful search was made for a second bile-duct, or for a branch running from the common duct or hepatic duct to the upper portion of the duodenum, but none was present. The interval between the portions of the duodenum was occupied by a part of the head of the pancreas. The blood-vessels to the stomach, duodenum, pancreas, and neighbouring organs were large and showed no abnormality. Histologically, the structure of the duodenum near the entry of the bile-duct appeared normal, and numerous Brunner's glands were present.

---

* The specimen was shown at the Section for the Study of Disease in Children of the Royal Society of Medicine, on April the 27th, 1917.

The most interesting feature of the case and one which made a correct diagnosis almost impossible, was the fact that a large quantity of bile-stained fluid was vomited, although the bile-duct opened into the lower part of the duodenum, and there was complete lack of continuity between it and the upper part.

The earliest case in which bile was found both above and below a duodenal occlusion was described by Hirschsprung, who proved the presence of bile pigment in the stomach. He regarded the case as incomprehensible. Later cases were described by Wilks, Hobson, Wyss, Ferber, Northrup, Anderson, Cordes, and Spriggs (Case No. 2).

Cordes proved conclusively that in her case the common bile-duct sent a small branch to the dilated duodenum above the occlusion, whilst the main branch opened into the part below the occlusion. In her paper she gives good reasons for believing that a similar condition was present in some of the other cases, in which the same phenomenon was noticed, and even in some in which it was not, such as the two described by Theremin. Dohrn's case also suggested an anomaly of the bile-duct, and in Serr's case two ducts opened into the stenosed portion of the duodenum.

One may reject the view of Wilks and others, that the green fluid vomited is a secretion of the stomach.

The only reasonable alternative to Cordes' explanation of the way in which bile can be vomited and passed in the meconium with a complete atresia of the duodenum, is that advanced by Spriggs in his important paper in the 'Guy's Hospital Reports.' He suggests that where the bile-duct opens below the occlusion the presence of bile above it may be due to the infant having swallowed amniotic fluid containing meconium previously passed *in utero*, but regards it as unlikely. It is indeed unlikely to have been the cause in those cases in which a branched bile-duct existed, and in none of the cases reported was this possibility entirely excluded. In Anderson's case it was specially noted that the amniotic fluid was colourless.

In my case there can be no doubt that the second alternative was the correct one. The presence of a second or branching bile-duct was carefully look for, but none was found, whereas, there was an excess of green liquor amnii, the colour of which was doubtless due to the presence of meconium.

With regard to the ætiology of the condition I will say little. The causes of atresia and stenosis of the intestine have been dealt with very ably by Cordes, Spriggs, and Henneguier, all of whom have agreed that they are numerous. Atresias of the duodenum, however, stand apart, and almost always occur close to the opening of the common bile-duct, either just above or just below it. They may be attributed, with considerable assurance, to an error of development connected with the growth of the liver and pancreas. This is not made improbable by the fact that the liver and pancreas are generally developed normally in these cases, because once their outgrowth has taken place they are little likely to participate in an anomalous growth of the duodenum from which they sprang.

In my case some of the causes which have been proved to produce atresias of the jejunum and ileum, and occasionally of the duodenum, can be excluded. No failure of development of the arteries was present, such as has been described by Jaboulay, nor endarteritis obliterans, such as Durante discovered, nor embolus nor thrombosis, such as Kühner found. There was no fœtal peritonitis. Fiedler thinks that such a peritonitis, probably syphilitic in origin, may occur early in fœtal life, and leave no trace behind except an intestinal atresia or stenosis, and Schottelius has suggested that syphilis is a frequent cause, basing his contention on the fact that so many of the cases are met with in premature infants. The absence of any family history pointing to maternal syphilis, and the negative Wassermann reaction in the mother's blood, makes it very unlikely that hereditary syphilis had any direct or indirect effect in producing the defect of the duodenum in my case.

In favour of the view that intestinal, and especially duodenal occlusion is due in many instances to an error of development, is the fact that other malformations commonly regarded as defects of development are sometimes associated with it. The commonest of these is imperforate anus, which, according to Spriggs, is associated with it in one case in twenty. Another is described by Veszprémi, who met with a patent septum ventriculorum in the heart, and a duodenal occlusion in the same infant.

Congenital occlusion of the duodenum is in itself a rare condition. Cowell, in 1912, was able to collect only ninety-two cases, a few have been described since. The rarity of the occurrence of bile above and below the stenosed piece of gut, a condition generally dependent on a branched bile-duct, has been discussed already. Still more infrequent is an arrangement of the pancreatic and common bile-ducts, by which one enters the duodenum above the occlusion and the other below. The only case which I have been able to discover comparable to mine is that of Hess. In this there was a duodenal occlusion and an imperforate anus, and the pancreatic duct opened into the duodenum below the constriction, the common bile-duct above, a condition the reverse of that met with in mine.

BIBLIOGRAPHY.

ANDERSON.—'Med. Record,' 1889, xxxv, p. 329.
CORDES.—'Arch. of Pediat.,' 1901, xviii, p. 401.
COWELL.—'Quart. Journ. of Med.,' 1911–12, v, p. 401.
DOHRN.—'Jahrb. f. Kinderheilk.,' 1868, N.F. i, p. 220.
FERBER.—Ibid., 1875 viii, p. 423.
FIEDLER.—'Arch. f. Heilk.,' 1864, Bd. v.
HENNEGUIER.—'Thèses de Par.,' 1911–12, No. 442.
HESS.—'Deutsch. med. Wochenschr.,' 1897, xiv, p. 218.
HIRSCHSPRUNG.—'Schmidt's Jahrb.,' 1863, cxvii, p. 310.
HOBSON.—'Brit. Med. Journ.,' 1893, i, p. 637.
JABOULAY.—'Presse méd.,' 1901, p. 417.
KARPA.—'Arch. f. path. Anat.,' 1906, clxxxv, p. 208.
KÜHNER.—'Virchow's Archiv, 1872, liv, p. 34.
NORTHRUP.—'Arch. of Pediatr.,' Philad., 1890, vii, p. 684.
SCHOTTELIUS.—"Casuistiche Mittheilungen aus dem pathologisch-anatomischen Institut zu Marburg."
SERR.—'Med. Monatschr.,' N.Y., 1890, ii, p. 57.
SPRIGGS, N. I.— 'Guy's Hosp. Reports,' 1912, lxvi, p. 143.
THEREMIN.—'Deutsch. Zeitschr. f. Chir.,' 1877, viii, p. 34.
VESZPRÉMI.—Beitr. z. path.-anat. u. z. allg. Path.,' Jena, 1914, lx, p. 124.
WILKS.—'Trans. Path. Soc.,' 1861, xii, p. 102.
WYSS.—'Brun's Beitr. f. klin. Chir.,' Tübingen, 1900, xxvi, p. 631.

NOTES ON A FATAL CASE OF PELVIC CELLULITIS IN A CHILD.

By Frederick C. Pybus, M.S., F.R.C.S.,

Surgeon to the Hospital for Sick Children; Assistant Surgeon to the Royal Victoria Infirmary, Newcastle-on-Tyne.

A peculiarity of children as compared with adults is the rarity of streptococcal infections of the cellular tissues in the former. Prof. Rutherford Morison's aphorism that cellulitis does not occur in children is a most useful one. While of course not strictly true it is helpful, and were it more generally known and appreciated, cases of osteitis would often be recognised as such and receive proper and efficient treatment instead of being mistaken for cellulitis. In this patient the pelvic cellular tissue was involved, and in its regional spread the cellulitis presented many features resembling that due to puerperal infection.

D. S—, a female child, aged 7 months, vomited several times and was apparently ill. A few days later the mother noticed the right labium majus was red and swollen, and the temperature was found to be 103° F.

On February the 3rd, 1915, I found the child pale and obviously ill. The bowels had moved normally. The right labium majus was red and œdematous. There was no discharge about the vulva or enlargement of the groin glands. The abdomen was somewhat distended and was tender in the lower half, especially on the right side, and an indefinite mass could be palpated in the right iliac fossa.

An examination per rectum revealed a mass on the right side of the pelvis near the brim. The diagnosis seemed doubtful between an appendix abscess with infection of the retro-peritoneal cellular tissue or cellulitis of the labium with involvement of the iliac glands. I inclined to the latter opinion and had the child removed to hospital for operation.

Operation.—February the 3rd, 1915: Under the anæsthetic a definite mass could be felt behind Poupart's ligament and in the lower part of the right iliac fossa. The abdomen was opened in the right iliac fossa. The peritoneum and cellular tissue were œdematous. On opening the peritoneum clear fluid escaped. The appendix was normal, but the outer half of the Fallopian tube where it rested against the inflamed peritoneum was œdematous. A small tube was inserted down to the Fallopian tube and the peritoneum closed. On pushing aside the peritoneum from the iliac fossa a collection of pus was reached lying on the psoas muscle and apparently arising from an infection of the iliac glands. The pus was mopped out and a small tube inserted into the abscess cavity.

The remainder of the wound was then closed. A culture of the pus gave a profuse growth of streptococcus.

Subsequent history.—The child was discharged from hospital at the parent's request on February the 17th, 1915, with a sinus still present at the wound. Two or three weeks later the child was again admitted, and the wound was re-opened by my assistant. A tube was inserted, which was followed later by the formation of a fæcal fistula. At a later date abscesses appeared in the left groin, above Poupart's ligament and in the left ischio-rectal fossa; these were opened and drained. Still later, abscesses formed and discharged from the right ischio-rectal fossa and from Petit's triangle above the left iliac crest.

I again saw the child in this condition in September, 1915. There was pocketing of pus at each of these places; the skin was undermined, but in spite of this the child remained in fairly good condition. It was obvious that the whole pelvic cellular tissue was infected, and on rectal examination there was considerable thickening in the pelvis closely resembling that found on vaginal examination in diffuse puerperal pelvic cellulitis.

A further operation was performed in October, 1915. The sinuses were explored and undermined areas laid open. All the sinuses communicated in the pelvis, and the finger could be passed from side to side or from the groin into the ischio-rectal fossa.

The child died a week later, but no further examination was permitted.

ACUTE DELIRIUM IN LOBAR PNEUMONIA IN A CHILD.

By J. Porter Parkinson, M.D.,

Senior Physician at the Queen's Hospital for Children, etc.

In the last number of this Journal Dr. Hugh T. Ashby recorded a case of acute violent delirium occurring during the crisis of an otherwise normal case of acute pneumonia. Last month I had a very similar case, and as the condition is certainly rare a description of it may be of interest.

A girl, aged 7 years, was admitted to hospital on the second day of her illness, which began with fever and vomiting. There were signs of consolidation of the upper lobe of the right lung. The temperature ran high, mounting to 105° F. or over daily but with daily remissions to 103, or even 101° F. It fell by crisis on the eighth day. On admission she was restless and irritable when touched, slept very badly, waking with a start as if frightened, but became quiet on being sponged.

On the seventh day of the illness she became delirious, and towards night wildly excited, screaming and trying to get out of bed, necessitating the constant presence of two nurses to prevent her getting up.

She got a very bad colour and the pulse became very feeble, but not more rapid than usual being 144 to the minute, and the breathing very shallow, 50 to the minute.

There were no signs of meningitis, pericarditis, or other complication.

After a dose of nepenthe she became somewhat quieter and slept a little, but during the night had several severe attacks of screaming.

On the following day, though the temperature was beginning to fall, she continued very delirious and violent and this lasted till the temperature had been normal for two days.

She made a perfectly good recovery, the signs of consolidation disappearing in the usual way.

The cerebro-spinal fluid was not examined as she would have been an extremely difficult case for lumbar puncture.

Cerebral symptoms such as convulsions, delirium, etc., at the onset of acute pneumonia are, of course, very common, but when they occur at the end of a week they generally are due to some complication and most of the cases end fatally. In my case the only cause for the delirium would appear to be the height of the fever, but this is not infrequent while a violent delirium of the type described is certainly rare.

There was no history of any nervous disease in the patient or her family.

Royal Society of Medicine.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Friday, March the 23rd, 1917.

DR. L. GUTHRIE, *ex-President, in the Chair.*

Amyotonia Congenita.—Dr. H. C. CAMERON showed a female infant aged 2 years. The family history was without bearing on the case. The child was breast-fed till aged 12 months. Teeth were cut without disturbance at the age of 8 months. There had never been any digestive disturbance and the child though small was fairly well nourished. She had been under observation for nine months. Lately there had been very rapid improvement, and crawling was now accomplished comparatively easily. The muscles of the upper extremities especially had recently gained considerably in tone. She was being treated with massage and exercises. Skiagrams showed slender bones, not otherwise abnormal. There was no signs of rickets. The stools were pale in colour and of a glistening appearance, due to the presence of fatty acid crystals and soaps. Stercobilin was present.

Splenic Enlargement.—Dr. E. CAUTLEY showed a boy, aged 5 years 2 months; twelfth child. Four of the children were dead and the mother was reported to have died of carcinoma mammæ. He was brought up on milk and water. He was a very small and anæmic child, 18 lb. 12 oz. in weight, and markedly rachitic, with a large lax abdomen and kyphotic lumbar curve, and was unable to walk or crawl. The spleen was enormous and hard, extending down to the pubes and a good inch beyond the middle line below the level of the umbilicus. The liver extended about 4 in. below the costal margin. Blood: Hæmoglobin, 25 to 30 per cent.; erythrocytes, 1,460,000, and leucocytes, 5600 per cubic millimetre. Differential count: Polymorphonuclears, 49; large lymphocytes, 23; small lymphocytes, 20; hyaline mononuclears, 3; transitionals, 3; mass cells, 1; neutrophile myelocytes, 1 per cent. Poikilocytosis present. Marked polychromatosis rendered it difficult to distinguish between nucleated red cells and small lymphocytes. Two normoblasts and a megaloblast were seen while counting 100 cells (H. H. Sanguinetti).

(?) Juvenile Tabetic Bilateral Optic Nerve Atrophy.—Dr. F. PARKES WEBER.—The patient, aged 7 years was a bright intelligent boy, born in London of Hebrew parents. In December, 1916, it was found that his sight was failing and this had progressed, until now he could only see enough to be able to count fingers in a good light. There was horizontal nystagmus. Both pupils were moderately dilated (the right one somewhat more than the left), and neither of them reacted to light nor accommodation. Ophthalmoscopic examination showed nearly complete optic nerve atrophy in both eyes; the arteries were only moderately contracted. Röntgen-ray examination furnished no evidence of anything abnormal at the base of the skull. There was no obvious hydrocephalus or cranial deformity, nor were there signs of disease elsewhere in the body. Excepting a doubtful history of injury to the head, there was nothing in the past history of the patient which threw light on the case. But his blood-serum gave a positive Wassermann reaction, and so did that of his mother and that of one of his sisters; whilst another of his sisters had been treated at another hospital, apparently for congenital syphilis. The patient's mother had had five children and two miscarriages. The five children were all living; two of them, besides the patient himself had been already mentioned; the other two were said to be healthy.

Cerebral Degeneration and Epileptiform Fits, with Amaurosis, in an Only Child. Question of Juvenile Paralysis.—Dr. F. PARKES WEBER (*vide* p. 176).

A Rare Disease in Two Brothers.—Major CHARLES HUNTER.—The brothers were aged 10 and 8 years respectively. Father living, aged 48 years, strong and healthy, and of normal appearance. Mother died at 45 of kidney disease, when five months pregnant. The boys are the only living children. There was first a miscarriage, then full-term twins, who died at birth, the confinement being difficult and instrumental, then a miscarriage, and lastly death of the mother when pregnant five months.

The two children were full-term and were delivered without instruments, were both breast-fed and had no digestive disturbance in infancy, and both walked at the age of seventeen months. The elder began to talk when aged about 1 year. The younger was late in learning to talk and is still somewhat backward. Both children have been healthy in every way apart from enlarged tonsils and adenoids for which they have been operated. Both have inguinal hernia; the younger was able to dispense with his truss three years ago, the elder still has to wear one.

Present condition.—The children present an extraordinary appearance, and apart from their difference in size and some minor points are exactly alike. They are undersized, 3 ft. 11 in., and 3 ft. 9 in. (average 4 ft. 4 in. and 4 ft.), weight 56 lb. and 50 lb. (average 66½ lb. and 54½ lb.), heads extremely large, measuring in greatest circumference 23 in. and 22 in. (average 21 in. and 20½ in.). The head is curiously shaped with very marked bulging of the squamous portion of the temporal bone and of the frontal bones; the hair of the head rather thin and very harsh especially in the younger. The face is very large, of deep burnt-red colour, with a tinge of cyanosis in cheeks and lips, eyes very puffy, saddle nose, with large thick nostrils; thick lips, slightly open mouth, very large tongue, teeth good, but with irregular furrows and slightly spaced, very short neck with slight enlargement of thyroid in both. The chest is broad, abdomen very large and deep, greatly protruding with small umbilical hernia, penis rather large, testes normal size. From behind the scapulæ are seen to be placed extremely high, closely resembling a double Sprengel's deformity; the neck is very short. The spinal column is straight, the natural curves being obliterated; the thighs are slightly bent, and the whole trunk inclines slightly forward. The arms are held somewhat adducted from the body and bent at the elbows so that the hands rest on the front of the thighs instead of on the side. The upper arm is disproportionately short in relation to the forearm, which is abnormally flat. The wrists are very thick, the hands very broad, short and thick; the fingers very short and bent. The knees are slightly flexed, both knees and ankles are thick, and the feet are broad, short and thick. The gait is very clumsy and stiff, the trunk is slightly bent forward and is held rigid. The normal movement is curtailed in all the joints of the extremities. The hands, particularly of the elder brother, have entirely lost their supple freedom of movement; they cannot be clenched; extreme extension of the fingers is similarly deficient, and even the movements possible are clumsy and stiff. The elbow and shoulder share in the general limitation of movement. Active and passive movements of the spine are very much limited. The hip- and knee-joints have lost a little of their range of movement. The toes, while not deformed like the fingers, have completely lost the suppleness characteristic of youth. The skin of the trunk is smooth and not specially dry. The backs of the hands and fingers are deeply bronzed and the skin is there very thick and rough. In the younger child, over strips of skin 1½ in. wide extending from the angles of the scapulæ parallel to the ribs forward to the mid-axillary line, there are pin-head elevations, grouped closely and regularly, smooth of surface, normal in colour, and not unlike, though more superficial than the lesions of cheiropompholyx. Some sixteen similar markings occur over an area of the size of 50 cents, in the upper part of the right arm. No pubic nor axillary hair. The breathing is audible even at rest and becomes loud and puffing on exertion. The heart in the younger is normal; in the elder it is enlarged to the left, there is a distinct diastolic murmur audible in the third and fourth left interspace close to the sternum, the second sound at the pulmonic and aortic areas being clear; at the apex, a systolic murmur is conducted slightly towards the axilla.

Blood count in the elder: Hæmoglobin, 80 per cent., red cells 6,000,000, white cells 7000. The liver and spleen are very much enlarged in both. The urine is normal. The children are bright and intelligent, though both are hampered by distinct dulness of hearing. General examination of the nervous system was negative. Wassermann reaction negative in both children and in the father.

Both have some adenoids. There are no signs of syphilitic disease about the nose and throat.

Skiagrams show abnormal thickness of all the bones and pronounced irregular epiphyseal ossification.

Friday, April the 27th, 1917.

Lipodystrophia Progressiva in a Male.—Dr. F. Parkes Weber (*vide* p. 179).

Bilateral Optic Nerve Atrophy in a Child, with Positive Wassermann Reaction and History of Infantile Convulsions.—Dr. F. Parkes Weber.—The patient, a girl, aged 3½ years, was prematurely born (at seven months), but appeared physically and mentally fairly normal, excepting that she was blind and presented incomplete bilateral optic nerve atrophy. The mother was not sure that the child could ever see more than enough to distinguish light from darkness. There was a strong history of infantile convulsions up to the age of 1 year and 2 months. She commenced to suffer from fits when she was aged 2 months, the first one lasting about fifteen minutes. They recurred frequently for three days, and then they ceased until she was aged 6 months. From that time they appeared in the form of frequent attacks of "jerky movements" (six to eight attacks daily) until she was aged 14 months, when they ceased. The child's blood-serum and that of her mother gave a positive Wassermann reaction. The mother had one other child, a boy, aged 9 years, who was living and seemed to be healthy, and whose blood-serum gave a negative Wassermann reaction. She had had one miscarriage (at three months), about 6½ years ago. The child's father, who gave a weakly positive Wassermann reaction, denied ever having had any venereal disease. A younger brother of the father was said to have had a blind, prematurely born child, who lived only fifteen months.

Congenital Word- and Letter-Blindness—Congenital Alexia, with Agraphia, without Aphasia.—Dr. F. Parkes Weber (*vide* p. 183).

Case of Syphilitic Periostitis and Epiphysitis in One of Twins, without other Marked Signs of Syphilis.—Dr. H. C. Cameron showed an infant, aged 9 weeks. Breast-fed. Soon after birth the thighs became swollen and tender. Thickening of both femora and tibiæ could be felt. The left leg was held motionless. Other signs of syphilis were not marked.

There was a slight snuffling sound on breathing. A positive Wassermann reaction was obtained in the mother and both children.

The following were also shown:

(*a*) The twin unaffected.

(*b*) A radiogram of the bones around the affected knee-joints, showing thickening of the periosteal bone and a large bony mass projecting from the femur behind the knee. There was also a well-marked shadow, showing the zone of ossifying fibrous tissue, running along the epiphyseal line and separating epiphysis from diaphysis. In the case of the left femur, separation of the epiphysis had taken place at this point. X-ray examination of the other child showed nothing abnormal.

(*c*) A specimen from a child 10 weeks old from an autopsy, showing exactly similar changes—viz. the dense, yellow periosteal bone, the ossified, outlying mass in the same situation behind the knee, and the yellow line of ossifying tissue separating epiphysis from diaphysis in both femur and tibia.

(*d*) A radiogram from this specimen for purposes of comparison.

The Case of Osteogenesis Imperfecta shown in 1916, at a very Early Stage.—Dr. H. C. CAMERON.—The peculiar bulging of the temporal part of the skull, described in 1916 (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1916, XIII, *p.* 241), had now become bilateral. The femur had since been twice fractured. There had thus been in all five occasions on which fracture had occurred from very slight violence. One fracture had occurred at birth, and the others had taken place since.

Case of Congenital Defect of the Duodenum in which Bile was found both Above and Below the Absent Portion.—Dr. E. A. COCKAYNE (*vide* p. 188).

Status Lymphaticus from the Clinical Standpoint.—Dr. H. C. CAMERON read a paper which he summarised as follows:

1. The lymphoid over-growth so commonly found post-mortem in children is no more than an enlargement from the irritation of chronic catarrh in the corresponding mucous membranes.
2. Such children during life show evidence of faulty nutrition on infection of all epithelial structures, hair, skin, teeth, conjunctiva, and the mucous membranes of respiratory and intestinal tracts.
3. There is usually present a characteristic wateriness of the tissues, which is dependent to some extent upon excessive carbohydrate feeding, which is a main cause of the liability to infection.
4. Local treatment of the catarrhs alone is likely to be inefficacious, and must be accompanied by a systematic attempt to bring about the process of dehydration and improve the nutrition of the tissues.
5. The status catarrhalis is a predisposing cause of rheumatism and tubercle, and carries with it a liability to sudden death at the onset of virulent infections, such as pneumococcal infections, measles, or diphtheria.

SECTION OF ELECTRO-THERAPEUTICS.

December the 15*th*, 1916.

The Changes Observed in Cases of Osteomyelitis.—Dr. R. W. A. SALMOND described three essentially different cases of osteomyelitis in a long bone, observed by repeated X-ray examinations and with their main clinical facts.

CASE 1.—*Infective osteomyelitis of right radius of staphylococcic origin.*—Girl, aged 9 years.

The chief points of interest in the case were the following:

(1) Observations were begun within 24 hours of the definite exciting factor.

(2) The clinical crisis taking place before hardly any radiographic changes were to be seen.

(3) The escape of the upper epiphysis, adjacent joints, and except for an occasional slight periostitis, the ulna.

(4) The formation of a complete new shaft in three months, the old shaft meantime having been absorbed, detached as sequestra or removed at operation.

(5) The occurrence of two relapses, one not causing any symptoms and discovered quite unexpectedly, the other occurring, some two years later at the same position and much more acute in nature.

(6) The non-obliteration of one of the abscess cavities in the bone for three years, probably due to the remains of some focus of disease, as the subsequent extrusion of a sequestrum or pus, or both, led to its disappearance.

CASE 2.—*Syphilitic osteomyelitis of right radius.*—Girl, aged 13 years. Under treatment with mercury and iodide the bone showed little improvement radiographically until after about two months, when the condition gradually returned to the normal. As in the previous case the adjacent joints were not involved and clinical improvement took place long before the radiographic.

CASE 3.—*Tuberculous osteomyelitis of lower end of left femur.*—Boy, aged 10 years. The case showed the following clearly defined differences from the other two cases; (*a*) The ready spread of the disease to the adjacent joint, the epiphyseal and articular cartilage being no barrier, while in Case 1 the epiphyseal cartilage at one end and the articular cartilage at the other strictly defined its limits; (*b*) the extensive infiltration of the surrounding soft parts.

SECTION OF OBSTETRICS AND GYNÆCOLOGY.

March the 1st, 1917.

Metastatic Glioma (Neuro-epithelioma) of the Right Ovary in a Child, aged 3 years.—Dr. CUTHBERT LOCKYER.—A girl, aged 3 years, was admitted to hospital on February the 14th, for a fungating growth protruding between the lids of the left eye. The right eye was proptosed. The left orbit was exenterated, and the right eye freely excised within an hour of admission. On March the 11th the child was discharged, and on the 30th was re-admitted with a recurrence the size of half a tennis-ball protruding from the right socket. This was cleared out on the day of admission, but the patient soon became very emaciated, the right socket filled up again, and death occurred on May the 7th.

At the autopsy about twenty rounded growths with raised edges, scarlet in colour, caused adhesion of the dura mater to the bones of the cranium; there was also a mass of growth in the position of the optic chiasma. Metastases were found in the mesenteric glands, on the anterior aspect of the body of the second lumbar vertebra, and in the right ovary. The pelvic organs were otherwise quite normal. On naked eye section of the right ovary the centre was found occupied by a blood-clot measuring $\frac{5}{16}$ in. in diameter. The clot was surrounded by an area of new tissue, forming a zone $\frac{3}{16}$ in. in thickness. Microscopical sections showed a normal ovarian cortex containing many primordial follicles, deep to which came the tissue of the new growth, the characters of which were indistinguishable from those of a small, round-celled sarcoma.

Dr. Lockyer had found only two other cases of metastatic glioma of the ovary on record:

1. (Heymann and Fiedler, '*Arch. f. Ophthal.*,' 1869, xv, *p.* 173.) The patient was a child, aged 3 years. The primary disease was unilateral, affecting only the left eye. The tumour was the size of a hen's egg. Four months after the onset of the disease the bulb was extirpated and the optic nerve resected. Recurrence followed two weeks later, and death occurred two months after operation. Metastases were situated on the cranium and meninges, underneath the optic chiasma, in the left ovary, and in the retroperitoneal glands. The age of the patient and the distribution of the metastases were thus practically identical with those in the present case.

2. (Rosconi and Bizzozéro, '*Riv. Clin. di Bologna*,' 1871, *p.* 169.) Child, aged 1½ years, who died two months after the growth was first noticed. No operation was performed. There was exophthalmos, due to a *glioma retinæ*. Metastases were found between the cranial bones and the dura mater, in the liver, and in both ovaries.

Philadelphia Pediatric Society.

March the 13th, 1917. The President, Dr. John F. Sinclair, in the Chair.

Congenital Equino-varus.—Dr. William J. Taylor showed a six weeks old baby with a congenital equino-varus of the right foot, and demonstrated a method of stretching and moulding the foot into shape which he has found to be very successful in young infants.

This treatment should be begun within a few days after birth, and the nurse should carry this out three or four times a day, being very careful not to irritate the skin and to produce no real pain. Within a week the foot and leg should be held firmly in a small tin splint by means of flannel bandages, and later, plaster-of-Paris casts should be used. These latter should be removed frequently—certainly once a week—and an effort made at each reapplication of the plaster-of-Paris to straighten the foot. The bones of the foot, in these young infants, were so soft and easily moulded that astonishingly good results could be obtained by this method of treatment without any form of cutting operation.

Chorea.—Dr. Arthur H. Gerhard said that chorea was the commonest of all nervous diseases of children. M. J. Lewis's report of clinical studies of many hundreds of cases, in which he called attention to the seasonal distribution, showed a distinct increase in March and April, and again in the early autumn.

Dr. Gerhard called attention to the close inter-relation of chorea, tonsillitis, and rheumatism, and Von Pirquet's expression of belief that they were manifestations of the same infection. Atypical rheumatism of children should be considered.

An important clinical point was the rarity of chorea in the well-to-do, and the inference was that this must be due to prompt attention to tonsils, eyes, rheumatic pains, etc.

The less commonly known concomitants of chorea were palsies, affection of speech and habit tics succeeding true chorea.

The commonly concomitant anæmia, and the prevalence of hæmic murmurs in first attacks, followed by true endocardial murmurs in the typical recurrences of the disease, were mentioned.

Dr. Gerhard spoke of the value of aspirin in the treatment, followed by iron and arsenic during convalescence, and of the necessity of regular rest, of keeping choreics away from "movies," and of depriving the patients of tea, coffee, and sweets between meals.

The care of tonsils, eyes, teeth, circumcision, etc., in the disease was most important. The mild choreic movements and apical murmurs, with the circulation maintained, were not considered contra-indications to anæsthesia and surgical procedure.

Finally, a query was made as to possible prevention of this very common disease by urging proper care of children with sore throats, eye-strain, rheumatic pains, etc.

Progressive Muscular Dystrophy.—Dr. WILLIAMS B. CADWALADER.—The patient was a girl, aged 16 years. The family history suggested that some abnormal congenital influences as well as those producing myopathy were present, for her brothers and sisters showed defects of development but did not have myopathy. The patient's condition developed at the age of 4. She complained at that time of general muscular weakness. She stated that she had recovered almost entirely, but when 12 years old she was again seen by Dr. Cadwalader because the muscular weakness was returning. Since then her condition had not altered appreciably. Examination showed that the face was not affected, but there was marked atrophy of the muscles of the proximal portion of both arms and of the shoulder-girdles. The left biceps was hypertrophied; the muscles of both forearms were slightly hypertrophied, as were also the calf muscles. The tendon reflexes were diminished. Some of the muscles in the scapula regions showed fibrillary tremors. Dr. Cadwalader stated that fibrillary tremors were apt to be regarded as indicative of a lesion of the anterior horn-cells. This, however, was not entirely justified, for it was known that fibrillary tremors occasionally occurred in cases of pure primary myopathy.

Progressive muscular dystrophy might be a familial disease. It was a congenital but not necessarily an hereditary condition. In many instances no antecedent cases could be traced in the patient's family. Moreover, it had been shown, according to Gowers, that children of the same mother by different husbands suffered the same way. It generally made its appearance after some acute infection. A sudden or acute onset had been recognised, but it was doubtful whether it was not merely an acute exacerbation of a latent condition. Its course was usually gradual and progressive. In rare cases dystrophy had been known to become arrested; indeed, this patient's condition did not seem to have become worse in the past four or five years. Recovery had been reported a very few times, but there was still some doubt as to the accuracy of such observations.

Progressive muscular dystrophy was essentially a disease of the muscles. It was an interstitial myositis. The cells in the spinal cord were occasionally affected, but not in the majority of cases.

Four years ago Dr. Corson White and Dr. Cadwalader ('Medical Record,' June the 7th, 1913) had studied a number of patients afflicted with this malady in order to determine the frequency of the occurrence of syphilis. They had found that syphilis was common in the parents and brothers and sisters of myopathic patients, and that myopathy and syphilis were frequently associated. The relation of syphilis to progressive muscular dystrophy was not certain, but the frequency of syphilis would seem to be more than mere coincidence. However, this subject needed further investigation.

The relation of myopathy to disorders of the internal secretions had been carefully studied by Dr. McCouch and Dr. Ludlum ('Medical Record,' June the 10th, 1916). They found the two conditions very frequently associated, and were inclined to believe that they were related.

In the January number, 1917, of the 'Archives of Internal Medicine,' Dr. Timmie, of New York, had published an article, in which he called attention to the fact that in a number of cases of myopathy he was able to recognise by X-ray examination what appeared to be calcification of the pineal gland. He discussed the relation of the disturbances of the ductless glands to myopathy, and concluded that a disturbance of the pineal gland was probably an essential factor in the origin of this disease.

Dr. Cadwalader thought we should hesitate in accepting Dr. Timmie's conclusions, for it was known that the pineal gland in normal individuals was frequently calcified.

Krabbe ("On the Histology of the Pineal Body," 'Rev. Neurol. and Psych.,' June, 1915, p. 300) stated that pineal concretions might occur at any age, and were constant after about the seventeenth year.

Hysteria.—Dr. Wm. Drayton said that while hysteria at puberty and during adolescence was common, it was uncommon in younger children. Some of the milder hysterical manifestations were not uncommon, but lasting hysterical stigmata were rare. Dr. Drayton reported four cases, age respectively 7, 10, 11, and 12. In two of these cases there was complete blindness, and in another there was inability to open the eyes. These four cases had been cured by such methods as rest and attention to hygiene, isolation from family, and suggestion by proving to the patient that he was not blind but could read with his supposed blind eye.

Cerebral Spastic Paralysis.—Dr. ASTLEY P. C. ASHHURST demonstrated two patients with cerebral spastic paralysis, and five patients with birth injuries of the shoulder. In the cases of birth injury to the shoulder, some held that the posterior dislocation often present was produced by injury at birth, and others that the dislocation was the result of paralysis due to nerve injury at birth. At any rate, remarkable improvement sometimes followed reduction of dislocation. Before 3 years of age this could be done by the bloodless method, but after this age open operation was preferable.

Orthopædic Treatment of Infantile Paralysis.—Dr. G. G. DAVIS.—The ordinary problems of such cases were taken up in detail and demonstrated on a patient. Dr. Davis said that radical operations should not be done before two to five years after the onset of paralysis—in other words, not before we were sure that there would not be continued return of power. Dr. Davis had not found difficulty in getting ankylosis in these joints in children, although this was contrary to the usual idea that ankylosis was not satisfactory before the epiphysis was ossified. Dr. Davis never caused ankylosis in the hip or knee, although he had found ankylosis of the foot a most useful procedure.

Abstracts from Current Literature.

Diseases of the Alimentary Canal.

How to save the teeth of the children ('*Journ. State Med.*,' 1916, XXIV, *p.* 268).—**J. H. Gibbs** advocates the line of preventive treatment first put forward by Sim Wallace, some twelve years ago, and shows that the prevention of dental caries consists in omissions from the ordinary diet rather than in additions to it. Dental caries could be almost completely abolished simply by discarding a few pure luxuries in the shape of sweets, and by so arranging our meals that none of them shall end with soft, sticky, sugary food. J. ALLAN.

Child welfare and the prevention of dental caries ('*Edin. Med. Journ.*,' 1917, I, *p.* 433).—**J. H. Gibbs** shows that dental caries and pyorrhœa alveolaris are primarily dependent on diet, and he discusses the dietetic *régime* that should be enforced. The prevention of dental caries consists in omission from the ordinary diet rather than in addition to it. Dental caries undoubtedly causes more acute suffering and misery to the community in the course of every year than any other disease, while the disfigurement that it causes is only too obvious. In loss of work it costs this country many millions of pounds annually, and yet it could be almost completely abolished simply by discarding a few recently introduced luxuries in the shape of sweets, and by so arranging our meals that none of them shall end with soft, sticky, sugary food. J. ALLAN.

A case of violent screaming and photophobia caused by dentition ('*Edin. Med. Journ.*,' 1917, I, *p.* 203).—**John Thomson** reports the case of a breast-fed, but slightly rickety baby, who, between the ages of 9½ and 20 months, suffered from severe nervous symptoms, which seemed always associated with the cutting of teeth. The first attack began when the lower central incisors were appearing (æt. 9½ months), and continued, with only slight intermissions, for 11 weeks, by the end of which time the ten teeth had appeared. The attack then ceased quite suddenly. Its main features were pronounced photophobia and loud screaming; the child also vomited once. The screaming attacks were best controlled by laudanum, and for six weeks he had from 10–20 drops, and after that for about four weeks as much as 18½ drops, every night at bedtime. This effectually quieted him, but did not make him sleep much. When the screaming fits ceased, the laudanum was discontinued without any difficulty. Subsequent attacks of similar nature were noted, and all the attacks occurred when a set of teeth was in process of appearing through the gums. The important point in the treatment was the excellent result of the very large doses of laudanum which

were given and the absence of bad results from them, or of any difficulty in stopping the drug.
J. Allan.

Sialolithiasis and sialodochitis in childhood (*'Amer. Journ. Dis. Child.,'* 1916, xi, *p.* 232).—**H. Neuhof** records three cases of sialolithiasis or salivary calculus, two of which were instances of solitary calculus in Wharton's duct, and the third one of multiple calculi in Stenson's duct in children, aged 5, 8, and 6½ years respectively. He holds that sialolithiasis is not exceedingly rare in childhood, and that its surgical treatment is simple and efficacious. He also records two cases of sialodochitis of Stenson's duct in children aged 4 and 8 years old respectively characterised by a cicatricial stenosis of one Stenson's duct, the result of an inflammation of unknown origin, by a firm nodular enlargement of the corresponding parotid and by a tendency to recur after slitting the mouth of the duct, but cured by excision of the diseased end of the duct.
J. D. Rolleston.

Vomiting in infancy (*'Med. Press,'* 1916, ii, *p.* 584).—**J. Epstein** points out that vomiting in infancy may be the result of: (1) Improper feeding; (2) improper food; (3) congenital pyloric stenosis; (4) rumination; and discusses the symptoms, diagnosis, and treatment in each case.
J. Allan,

Early morning toxic vomiting in children (*'Arch. of Ped.,'* 1916, xxxiii, *p.* 654).—**T. S. Southwark.**—The vomiting of children, which not infrequently occurs in the early morning either before or soon after the first feed, is often of toxic origin, as shown by the fact that the vomit contains no food residue if before the first morning feed, and, if after this feed, only the food of that meal. It is thus distinguished from the vomiting of undigested and fermenting food due to failure of gastric digestion. It may be assumed that in the toxic type of vomiting the disturbance of digestion is primarily intestinal, not gastric, and that there is an attempted elimination by the gastric mucosa of absorbed toxic principles, which accumulate in the stomach during sleep and assert their presence on awakening in nausea and vomiting. Southwark reports a case in a boy, aged 3 years, cured by calomel, followed by citrate of magnesia.
J. D. Rolleston.

Obstruction of the pylorus in infants (*'New York Med. Journ.,'* 1916, ciii, *p.* 775).—**E. M. Sill** points out that this condition occurs almost always in breast-fed male babies, and so cannot be attributed to faulty feeding. The sudden onset points to the spasmodic element predominating at the beginning. The difference between pyloric spasm and stenosis is one of degree, not of kind, the autopsy almost always shows hypertrophy of the pylorus, but spasm may play an important part in the symptoms. A palpable tumour is not necessary for the diagnosis, the projectile vomiting and the peristaltic abdominal wave being sufficiently suggestive, associated with loss of weight and marked constipation. When a distinct pyloric tumour is felt surgery probably offers the best chance of recovery. The mother's breast-milk is the best diet, diluted if necessary; if not obtainable, suitably modified cows' milk, which should be low in fat and sugar. Stomach lavage twice daily should be given. Half to a drop of opium or atropine $\frac{1}{800}$ to $\frac{1}{500}$ gr. may help to allay spasm. The head of the bed should be raised or a pillow placed under the child, so that it rests on an incline. This decreases vomiting and aids expulsion of gas.

J. Porter Parkinson.

Diagnosis of pyloric stenosis and pyloric spasm by the duodenal catheter (‘*Arch. of Ped.*,’ 1917, xxxiv, *p.* 199).—**W. W. Howell** thinks that the duodenal catheter offers the easiest and most reliable means of detecting a pyloric obstruction in doubtful cases in infancy. If a normal size catheter passes, it is safe to wait regardless of the other symptoms, and to regulate the diet. Increased pharyngeal, cardiac, and pyloric reflexes on the passage of a normal size catheter means spasm, and should be treated by stomach washing and regulation of the diet. Obstruction to the passage of a normal catheter or the passage of a catheter smaller than normal, with normal or diminished reflexes, means partial stenosis, and should be relieved by operation.

J. D. Rolleston.

Congenital stenosis of the duodenum in an adult (‘*Journ. Amer. Med. Assoc.*,’ 1916, lxvi, *p.* 1774).—**W. I. Terry** and **A. R. Kilgore**.—Congenital stenosis of the duodenum is an uncommon condition, and is almost always fatal in early life. The writers report the case of a man, aged 24 years, whose illness began twelve years ago with a year of intermittent, rather indefinite pain in the lower abdomen, followed by three and a half years of freedom, and then four years more of similar attacks at intervals of from three to four weeks. The pain was always below the umbilicus, extending 5 cm. to either side of the mid-line without radiation. There was no definite relation to food. It was relieved by hot drinks and occasionally by defæcation. It was usually worse at night. He had had no definite pain for five years, but four years ago vomiting had begun, and had grown progressively worse, usually coming after the evening meal, sometimes after other meals. There had never been hæmatemesis or melæna. During these four years there had been progressively increasing weakness, with dizziness, etc. His appetite had been good, but he had limited his diet through fear of vomiting, finding that liquid food gave him least trouble. The stomach was distended and showed peristalsis from left to right. Test meals revealed nothing abnormal, but a skiagram after a bismuth meal could not be obtained. A diagnosis was made of pyloric stenosis due either to an old ulcer or to a congenital condition. At the operation the stomach was found to be much dilated and low in the abdomen. There were some old adhesions across both the anterior and posterior aspects of the stomach toward the pyloric end, but none about the duodenum except two very thin strands between the pylorus and gall-bladder. The pyloric ring was much dilated. The first portion of the duodenum was dilated, the upper wall forming a definite pouch. Just distal to this dilated portion at about the junction of the first and second portions of the duodenum and above the entrance of the common duct, the intestine was evenly constricted to one-third or less of its normal diameter for about 1.5 cm. There was no thickening of the wall, and no scars could be found and no abnormalities of the peritoneum to account for the constriction. A posterior gastro-enterostomy was done, and when the stomach was cut into, marked thickening of the wall was noted in spite of the dilatation of the organ, indicating long-standing obstruction. The patient died on the fifth day from leaking of the gastro-enterostomy wound and early peritonitis.

T. R. Whipham.

Congenital stenosis of the duodenum with chronic lactosuria (‘*Riv. di Clin. Pediat.*,’ 1917, xv, *p.* 1).—**C. Francioni** reports the case of a child, 47 days old, admitted for vomiting—at first bile-stained, afterwards having the aspect of curdled milk, and lessened in amount by very careful dieting. There was no obstinate constipation and severe peristalsis such as is usually seen in pyloric obstruction. The vomit showed hardly any trace of free hydrochloric acid. The urine contained reducing substances to Nyländer’s reagent to an amount varying from 8–20 per 1000. Lactase was present in the fæces. Autopsy: To the right of the stomach was a sac resembling a second stomach, but smaller and continuous with the duodenum. There were no adhesions. Below this the intestines were normal. Liver slightly enlarged and congested, otherwise normal. Spleen large; kidneys hyperæmic; pancreas normal. The stomach itself was of normal aspect but slightly increased in size, the fundus being as well developed as in an adult, its walls generally thickened, except at the fundus, where they were thinned and dilated. No hypertrophy of pylorus. Gastric mucosa normal. The pylorus led to a cavity having a conformation identical with that of the stomach, but about one-third smaller, its greater curvature measuring 12 cm. This sac seemed produced by a dilatation of the horizontal portion of the duodenum and of its descending portion as far as the opening of the bile duct, where it was continuous with the remaining portion of the duodenum, which had a normal aspect. The walls of this sac were thicker than those of the lower portion of the duodenum, although less thick than those of the stomach. The mucosa was smooth owing to entire absence of valvulæ conniventes. At the lowest part of the sac was a longitudinal patch of 2 cm., showing loss of substance by ulceration affecting the whole thickness of the mucosa. Its margins were clean cut and its floor reticulated. The external wall of the duodenum corresponding to the ulcerated tract did not show any appreciable naked eye changes. The inferior extremity of the ulcer was hidden in a narrow passage, by which the sac was in communication with the underlying tract of the duodenum, and which was oblique in direction. On opening up the lower part of the duodenum a small orifice was disclosed which admitted a small probe with difficulty, and the continuation of the longitudinal ulcer was seen, on the floor of which opened the bile-duct, into which a probe could be passed, without, however, reaching the lumen of the pancreatic duct. VINCENT DICKINSON.

Duodenal ulcer complicating burns in an infant (‘*Med. Journ. Austral.*,’ 1917, I, *p.* 183).—**J. E. Ashby.**—A female child, aged 11 weeks and 17 days, died after extensive, accidental superficial burns of the face, neck, ears, part of the scalp, left shoulder, arm, and part of the back. Postmortem examination revealed an ulcer on the lower side of the duodenal aspect of the pyloric sphincter. F. R. B. ATKINSON.

Acidosis of gastro-intestinal origin (‘*Journ. Amer. Med. Assoc.*,’ 1916, LXVII, p. 1351).—**H. D. Chapin** and **M. C. Pease** think that the cause of acidosis is sometimes to be found in a damage to the epithelium of the intestinal tract either by acids or bacterial products, thus allowing the absorption of toxic materials. In their series of cases the children at the time of the onset of the symptoms were on some form of whole milk modification or on a general diet which included milk. The feeds were low in fats, generally did not contain an abnormal amount of sugar, and were high, sometimes excessively high, in proteins. A hot day or night was almost certainly followed by one or more cases of acidosis, and not infrequently the onset followed an early morning bottle of comparatively old milk. No case occurred in a child who was on a carbohydrate diet. It is not the bacteria themselves in the milk which cause the damage, but rather the products of their activity. Such products are the result of the breaking down of sugars and fats into acids or the poisonous products of the decomposition of proteins. Such a decomposition of the milk may take place before it reaches the child or after it has entered the alimentary tract. Acidosis results when these products are present in large amounts or when the organism is specially susceptible. Acidosis of gastro-intestinal origin is probably always closely connected with the proteins, and especially with the casein of milk, and this theory is supported by the fact that large amounts of indican are frequently found in the urine. Having noted that these children improved rapidly if they lived long enough for a cathartic to act, the authors ventured to try what starvation would do, though with some hesitation, as starvation is known to be the cause of a rapid increase of abnormal acids. Somewhat contrary to expectation, prompt improvement was found to follow the administration of nothing but water and a solution of sodium bicarbonate. An important part of the treatment is the evacuation of the contents of the bowels, and especially of the small intestine by a cathartic. The use of sodium bicarbonate is recommended as a valuable temporary measure until other measures which require time become effective. It should be pushed—by the stomach, colon, subcutaneously or intravenously—until the urine is alkaline or the blood shows a normal reaction. Milk should be eliminated from the diet for a considerable time, and a very slow return to proteins be made. The blood in these cases has a low carbon dioxide tension, the increased acidity of the blood stimulating the respiratory centre to an increased activity in order that there may be a reduction in carbon dioxide, since the hydrogen ion concentration of the blood must be kept at a normal level. The carbon dioxide tension is best estimated by the van Slyke method. T. R. Whipham.

Azotæmia in the gastro-enteritis of early childhood (*'Riv. di Clin. Pediat.,'* 1916, xiv, *p.* 513).—**G. Guidi** estimated the amount of urea in the cerebrospinal fluid of 21 children suffering from gastro-enteritis. With the exception of slight forms he found almost constantly present a more or less marked degree of azotæmia. It may be estimated by the amount of urea in the cerebrospinal fluid, and corresponds with a definite clinical picture, more or less evident according to the greater or lesser degree of the azotæmia itself, and may be considered as the expression of a true and special condition of nitrogenous malassimilation, and, beyond a certain degree, irremediable. Vincent Dickinson.

Symptomatology of congenital intestinal obstruction (*'Arch. of Ped.,'* 1916, xxxiii, *p.* 194).—**F. van der Bogert** records three cases: (1) Aged 2 months. Single stenosis of ileum 23 in. above ileocæcal valve (*vide* British Journal of Children's Diseases, 1912, ix, p. 231). (2) Aged 4 months. Incomplete obstruction of duodenum 2½ in. from pylorus. Duodenum above it markedly but not greatly dilated. (3) Aged 36 hours. Death after attempt to relieve condition by operation. The autopsy showed multiple stenoses of the ileum, as in the case recorded by Drennan and Clark (*vide* British Journal of Children's Diseases, 1916, xiii, p. 310). Vomiting and constipation were present in all. Abdominal distension, which was marked in Case 1, was slight in Case 3.

J. D. Rolleston.

Chronic digestive disorders in children (*'Journ. Amer. Med. Assoc.,'* 1916, lxvii, *p.* 1569).—**C. G. Kerley** and **L. T. Le Wald** are of opinion that certain cases of gastro-intestinal disorders in children are due to mechanical causes, as can be shown by means of the X rays. Such disturbances are characterised by one or more of the following symptoms: repeated attacks of acute indigestion with vomiting; abdominal distension, transient or habitual; repeated attacks of intestinal colic; habitually loose evacuations; extreme constipation or periodic fever associated with intestinal symptoms. Probably many of the cases of ptosis of the stomach and intestine found in adults are of a congenital nature, or have their origin during child life because of erroneous habits in eating. The child of 5, 6, or 8 years eats a large meal three times a day and with this drinks two or three glasses of milk, which he is urged to take, all of which means that 2 lb. of food or more are placed in the stomach (more weight than many can accommodate), and ptosis results. A series of illustrative cases is recorded.

T. R. Whipham.

Intestinal obstruction due to ascaris lumbricoides (*'Journ. Amer. Med. Assoc.,'* 1917, lxviii, *p.* 244).—**J. M. Perret** and **H. T. Simon** report the case of a girl, aged 8 years, who had frequently passed round worms since the age of two. Five brothers and sisters had also done the same. Signs of intestinal obstruction developed, and an enema brought away a mass of about forty round worms. Recovery was complete.

T. R. Whipham.

Ruptured appendix found at autopsy in an infant suffering from colon bacillus infection of the urinary tract (*'Arch. of Ped.,'* 1916, xxxiii, *p.* 772).—**F. van der Bogert.**—A male infant, aged 15½ months, whose only previous illness had been severe inflammation of the prepuce some months previously, was taken ill suddenly with vomiting and high temperature. The urine showed muco-pus from which *B. coli* was cultivated. The vomiting became more severe and the abdomen distended. Death took place in three days. The autopsy showed free pus in the abdomen, an appendix ruptured near its distal end, with a fæcal excretion above the point of rupture, apparently normal kidneys, and a congested bladder.

J. D. Rolleston.

Pylephlebitis following appendicitis (*'Journ. Amer. Med. Assoc.,'* 1916, lxvi, *p.* 1450).—**H. H. Lissner** reports the case of a boy, aged 12 years, in whom pylephlebitis had occurred as the result of a non-suppurative appendicitis. The portal vein and its mesenteric branch were filled with a thrombo-purulent mass which was followed down to a small vein leading from the appendicular region. In the liver numerous dark necrotic areas occurred along the course of the portal vein, some of which contained small quantities of pus. The writer comments upon the infrequency of this complication.

T. R. Whipham.

Adenitis in the iliac fossa simulating coxalgia (*'Journ. de Méd. de Paris,'* 1917).—All inflammations which can be propagated to the iliopsoas muscle, causing its contraction, may be confused with coxalgia, such as appendicitis and Pott's disease. Chronic adenitis in the iliac fossa may produce the attitude of coxalgia and even apparent lengthening of the limb, but the movement of abduction is normal, and pressure behind the head of the femur does not cause pain. Sometimes the diagnosis is difficult. In adenitis also there is an absence of pain at night and during walking, and a diminution of lameness under the influence of exercise. There is an absence of osseous changes in the radiograph. J. Porter Parkinson.

A case of Hirschsprung's disease, with bibliography to January 1, 1916 ('*Arch. of Ped.*,' 1916, xxxiii, *p.* 665).—**R. Cadwallader** records a case in a boy, aged 9 years, sent to hospital with the diagnosis of tuberculous peritonitis. The mother stated that the bowels had never been moved without enemata. The whole abdomen was enlarged, and there was a peculiar line across it running from the left anterior superior spine to the neighbourhood of the cartilage of the 8th right rib. The abdomen was opened by a median incision; the upper sigmoid, descending colon, and part of the transverse colon were cut away, and an end-to-end anastomosis was done Recovery was uneventful. J. D. Rolleston.

Congenital megacolon (Hirschsprung's disease) ('*Cleveland Med. Journ.*,' 1917, xvi, *p.* 88).—**C. A. Hamann** records two cases: Case 1: Boy, aged 15 years, constipated since birth, and abdomen prominent since age of 8 or 9 years. An artificial anus was first established by stitching the sigmoid to the parietal peritoneum over an area of 1½ in. in diameter and opening it a few days later. Quarts of fæcal material were dug out with a spoon, aided by an irrigator, but a mass larger than an orange remained even after a month of almost daily effort to cleanse the bowel. On April 13 the artificial anus was closed, and the abdomen opened through the former incision. The large intestine was divided at about the middle of the descending colon and about 5 in. above the anus. The ends of the bowel were closed, and a lateral anastomosis made on the left side of the rectum. Recovery was uneventful. Case 2: Boy, aged 2½ years. Obstinate constipation and enlargement of the abdomen since early infancy. No preliminary colostomy. 10 in. of the large intestine were removed, comprising mainly the sigmoid, the ends of the gut closed, and a lateral anastomosis made. Death occurred from peritonitis at the end of a week.

J. D. Rolleston.

Lymphosarcoma of the sigmoid ('*Arch. of Ped.*,' 1916, xxxiii, *p.* 721.) —**A. L. Goodman**.—A girl, aged 4 years, was admitted to hospital for chronic constipation, abdominal pain, and bleeding from the rectum, accompanied by extreme pallor and weakness, which began about three weeks before admission, when her mother had noticed a hard lump in the abdomen. This sudden appearance and sausage shape suggested intussusception, but the painlessness of the tumour, the absence of vomiting, duration of the swelling, and general glandular enlargement were in favour of a new growth. On operation a tumour was found 6 in. long and 3 in. wide in the sigmoid and removed. Death took place four days later. The autopsy showed thickening of the intestinal wall, the mucosa of which was extensively ulcerated. The cross section of the gut was milky-white like lymphoid tissue. Microscopical examination showed the tumour to be a lymphosarcoma. J. D. Rolleston.

Experimental studies of the intestinal flora ('*Amer. Journ. Dis. Child.*,' 1917, XIII, *p.* 117).—**W. R. Sisson**, from experimental studies in the intestinal flora of puppies came to the following conclusions: (1) In puppies the types of organisms occurring at the duodenum, ileum, cæcum, and rectum are in all instances similar. One cannot speak of a characteristic local flora in these regions. (2) Administration to puppies of cow's milk mixtures with high percentages of sucrose or lactose does not cause characteristic changes in the intestinal flora at any level, even when a diarrhœa is produced. (3) Starvation of twenty-four hours causes a relative amicrobism of the small intestine. J. D. Rolleston.

An obscure abdominal case ('*Dub. Journ. Med. Sci.*,' 1916, I, *p.* 359).—**G. E. Nesbitt,** at a meeting of the Royal Academy of Medicine in Ireland, Section of Pathology, showed the kidneys and portion of small intestine, from a case with puzzling clinical symptoms. The patient, a girl aged 15 years, had been admitted to hospital for nephritis, the urine containing 0·4 per cent. of albumin and half the normal output of urea. The arteries were distinctly hardened, the aortic second sound accentuated, and the blood-pressure raised. She complained of occasional abdominal pain, for which no satisfactory explanation was apparent. She had no fever. On the tenth day after admission, she had a sudden large hæmorrhage from the bowel. The abdominal pain became acute and she vomited frequently. As these symptoms persisted for two days without improvement, laparotomy was performed. The abdomen was found to be normal, with the exception of the lower end of the ileum, which was studded with hæmorrhagic areas running for the most part in a transverse direction. The appearance was somewhat suggestive of typhoid, and the same day the blood was examined, with a positive reaction, for *B. paratyphosus* A in dilution one in eighty. Two days later the child died A limited autopsy was performed. The abdomen contained pus, due to two small perforations. The lower end of the ileum showed numerous small circular ulcers of various depths. Peyer's patches were not affected, nor were the mesenteric glands or spleen enlarged. The colon and cæcum were free. The left kidney was large and granular, with large adherent capsule. The right was congenitally small, about the size of a walnut. The clinical history and pathological findings seemed to be opposed to a diagnosis of paratyphoid, but, in the absence of complete bacteriological investigation, no definite opinion could be expressed. J. Allan.

Studies on parenteral infections ('*Arch. of Ped.*,' 1916, XXXIII, *p.* 671).—**J. R. Gerstley** draws the following conclusions from the study of 200 cases of parenteral infections—*i. e.* coughs and colds: (1) Parenteral infections in many cases are associated with mild or moderate diarrhœa; (2) if the child is allowed to drink as much water as he sees fit, this diarrhœa rarely develops into a severer disturbance; (3) in many cases the diarrhœa and vomiting is due to drugs given for the parenteral infection; (4) in some cases the cough seems directly secondary to the nutritional condition, and disappears as the nutrition improves. J. D. Rolleston.

The reaction of the child to a faulty environment ('*Practitioner*,' 1916, XCVII, *p.* 61).—**H. C. Cameron.**—A most instructive paper, in which the author insists upon the great frequency, among the children of the poor, of catarrhal infections of all sorts, and that this is due to the evil effects upon the organism of a faulty diet and a faulty environment. The tendency to catarrhal infections is a special characteristic of childhood, and even of healthy childhood. This commonness of catarrhal affections in the children of the poor is such that a considerable percentage show, after death, lymphatic enlargement (save after long illness). Although "status lymphaticus" *may be* the reason for sudden death without adequate cause being patent post-mortem, many such deaths are undoubtedly due to lowered resistance to infection. The author points out that out-patient children, though catarrhal, may often be plump, rounded, and high-coloured. On examination, however, there can be found a host of manifestations indicative of lowered resistance. A second group of children is pale, undersized, and wasted, with intractable secondary dyspepsia; the children who have suffered a constant repetition of catarrhal affections. One paragraph is specially worth quoting: "For some years I have felt convinced that the post-mortem appearance, to which the name status lymphaticus has been applied, is found only in children who have exhibited this fictitious appearance of health with persistent, though quiescent, catarrhal infections, and who have met their death without preliminary wasting or dehydration of the body." No name has yet been given to the conditions thus described by the author, who suggests the expression "catarrhal state." In discussing etiology, three factors are considered—heredity, faults of hygiene, and faults of diet. Confinement to hot rooms and a town life are important causes. Air-borne respiratory infections are very common, even in hospitals, and something is said as to the evils of the "hospitalising" of infants. Among faults of diet, artificial feeding and excess of one constituent (generally sugar or starch) in the food are prominent. In conclusion, attention is drawn to the relation between the catarrhal state of rheumatism and tuberculosis.

MACLEOD YEARSLEY.

Dermatology and Syphilis.

Dermatology in relation to child welfare (*'Edin. Med. Journ.,'* 1917 I, *p.* 401)—**R. C. Low** thinks that the two diseases with regard to which something might be done are tinea capitis and pediculosis capitis. In cases of the former he discusses notification, isolation, and disinfection. **Norman Walker** (*ibid.*, 1917, I, *p.* 396) refers to pediculosis (and impetigo), ringworm (and favus), and scabies, and deals especially with practical preventive measures.

J. ALLAN.

Congenital alopecia (*'Boston Med. and Surg. Journ.,'* 1917, CLXXVI, *p.* 210).—**J. H. Blaisdell, A. R. Cunningham,** and **C. J. White.**—A boy, aged 4 years, was brought to the clinic because he had only four teeth and almost no hair, and also because he caught cold easily and wetted the bed. The hair on the scalp was extremely scanty, and consisted of thin, straight tufts about ½ in. apart and 1 in. long. The scalp was parchment-like owing to lack of subcutaneous fat. The skin of the entire body showed a mild xerodermia, which was accentuated on the face, hands, and extensor surfaces. Sections of the skin showed deficiency of vessels, hair follicles, sweat, and sebaceous glands.

J. D. ROLLESTON.

Epidemics of pemphigus neonatorum (*'Journ. Amer. Med. Assoc.,'* 1916, LXVII, *p.* 1522).—**F. H. Falls** communicates a preliminary report on eight small epidemics of pemphigus neonatorum which have occurred in

Chicago within the last year. The disease is highly contagious, and can be transmitted through the medium of a third party who is not infected. Prompt isolation is necessary, and the most efficacious treatment is to apply a 2 per cent. white precipitate ointment after rupturing the vesicles. Vaccines have been tried, but it is too early yet to judge of their efficacy. The author has obtained from the lesions a staphylococcus which morphologically differs from the ordinary staphylococcus in that it appears as a kidney-shaped diplococcus with a tendency to form short chains. The organism conforms with Koch's laws. T. R. WHIPHAM.

Epidermolysis bullosa (' *Urol. and Cut. Rev.*,' 1916, xx, *p.* 378).—**A. W. Nelson** adopts Luitlen's division of this disease into two groups: (1) simple, (2) dystrophic. In the simple group the bullæ may appear on any part of the body after irritation of the skin. The mucosæ are seldom affected. The disease may appear at birth or shortly after. There is also an hereditary tendency to the disease. Most cases get worse in summer and improve in winter. The blebs heal without scarring. In the dystrophic group the hereditary nature is not so constant. The extremities are the seat of predilection with symmetry as a characteristic. The hands, feet, elbows, knees, and anterior surfaces of the legs are most frequently involved. The face and head usually escape. The blebs collapse and tend to the formation of crusts and scabs, and after healing the site of the lesions presents scarring and pigmentation. The mucous membrane of the mouth may become thickened, and there may be scarring of the lips and changes in the gums. Marked degeneration of the nails is a prominent feature. Nelson records an example of this group in a boy aged 11 years in whom the disease began when he was 9 days old. J. D. ROLLESTON.

Sacral blue markings in children (' *La Pediatria*,' 1916, xxiv, *p.* 577). —**A. Filia** made a systematic search for mongoloid blue markings among the children at Sassari for a period of 20 months, during which he found 63 cases out of 2588 children. They were almost equally divided among the sexes, most numerous under 1 year of age, diminishing rapidly in frequency after the second year, while none were found after the fifth year. The mean percentage of cases was 2·43 per cent., showing a striking difference between that found by Cozzolino in the adjacent town of Cagliari, 6–8 per cent. (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1915, XII, *p.* 251). The author draws attention to the fact that the inhabitants of the latter province are distinctly of a darker type, more approaching that of the Arab than those of Sassari, where chestnut brown hair is frequent; moreover, there is much commercial activity between Tunis and Cagliari, whereas Sassari has from ancient times traded mainly with Tuscany and Liguria. He gives illustrations of these markings occurring in three sisters, and cites one case observed by him where, in addition to the sacral marking, there was a patch on the forehead. There is only one other recorded case where the marking was localised on the forehead in a white child.

VINCENT DICKINSON.

Livedo reticularis ('*Brit. Journ. Derm.*,' 1916, XXVIII, *p.* 281).—**H. G. Adamson** refers to the papers of Jourdanet (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1912, ix, p. 279), Guille (*ibid.*, 1913, x, p. 40), and others, and records some personal cases in girls aged from 11 to 15 years, who all had "chilblain circulation" and generalised livedo annularis, and some had marked glandular enlargement or splenomegaly. His conclusions are as follows: (1) The dusky marbling or network known as livedo annularis is the result of the tuft-like arrangement of the blood-vessels of the skin. The network corresponds to the regions of reduced circulation between the tufts. (2) It occurs as a normal condition in many children and young adults and is exaggerated as a result of exposure to cold. (3) In departure from health, due to tubercle, syphilis, rheumatism, etc., the normal livedo annularis may become exaggerated and persistent, possibly from a toxic action upon the splanchnic plexus. (4) In such persons the position and pattern of eruptions due to syphilis or tubercle may be determined by the livedo, so that the eruption takes a network aspect and may be called "inflammatory livedo." (5) A similar inflammatory livedo with subsequent pigmentation follows prolonged exposure of the skin to heat—*livedo a calore.* (6) The distribution and arrangement of certain eruptions by secondary syphilis or measles is explained by the anatomical arrangement of the blood-vessels of the skin which gives rise to livedo annularis.

J. D. ROLLESTON.

Livedo annularis vel reticularis in children ('*Riv. di Clin. Pediatr.*, 1916, XIV, *p.* 83).—**L. Concetti.**—This subject has hitherto received scant attention from writers on pædiatrics. In the adult the most common cause of this condition is exposure of the lower limbs to the heat of a fire; but in children, where no such external cause exists, it must be sought in some modified constitutional state. Usually the subjects are lymphatic children with a skin whose venous system is in a congenital state of unstable resistance and of easy dilatability, with readiness of the blood to yield part of its colouring matter more or less transformed, and easy diffusability. Usually the condition exists from birth or appears soon after. It is more marked in cold weather and when the child is stripped and in the erect posture; less marked during febrile complaints and in hot baths, when the cutaneous circulation becomes more active. The condition is not rare, but escapes observation, since not being, strictly speaking, a disease, the children do not present themselves for treatment. Comby collected 22 cases, of which 2 were syphilitic, 2 had myxœdema and mongolism, in 6 there was active or latent tuberculosis, in 7 a neuro-arthritic diathesis. Fourteen were females, and 8 males. The thighs and forearms were chiefly affected.

VINCENT DICKINSON.

Atrophodermia reticulata symmetrica faciei ('*Med. Press,*' 1916, I, *p.* 487).—**G. Pernet** reports a case in a girl, aged 12½ years, who had nothing the matter with the skin, until she had measles at the age of 4 years. As a sequela, the skin of the face became rough, and remained so until about a year ago, when the two cheek areas began to take on their present appearances. There has never been any sign of ulceration or pustules about the affected areas. Last Christmas (1915) the child had an attack of German measles, but the eruption was not at all bad on the face. Cold winds made the areas red. Nothing had ever been applied to them in the way of treatment. The affected areas of the cheeks are roughly triangular and more or less symmetrical. The parts are slightly reddened, and have a honeycombed appearance. On close examination with a lens, a superficial atrophy of the skin can be made out. The picture is that of a fine network, the meshes of which form a raised, delicate tracery, enclosing slightly depressed atrophic areas. At the borders of the patches small pin-poin depressions can be seen. The slight blushy redness is due to a certain amount of telangiectasis here and there, especially about the margins of the affected areas. With the exception of a slight degree of xerodermia about the legs, the patient's skin generally is good. J. ALLAN.

Eczema in children ('*New York Med. Journ.*,' 1916, CIV, *p.* 1274).—**G. W. Crary** shows that eczema in infants is usually due to faulty feeding, and most authorities believe in reducing the food to the caloric requirements. Many prohibit stewed fruits and cream. The author forbids eggs and sugar in the diet of the older babies. The local dressing should be absorbent and not impervious to it, hence pastes are better than ointments. He uses Iceland moss jelly as the base, or to dilute the petrolatum base. He believes in a mild antiseptic as resorcin monoacetate 1·2 or 3 per cent. With this 5 to 10 per cent of ichthyol may be combined.

J. PORTER PARKINSON.

Eczema in infants and young children ('*New York State Journ. Med.*,' 1916, XVI, *p.* 523).—**C. G. Kerley** points out that among the disorders of infants and young children that stand apart from those of a serious nature there is none that is of as much annoyance to the patient and the patient's family as eczema. Not only is it unsightly, but as a consequence of the discomfort to the patient nutrition and growth may be seriously interfered with in severe cases. Eczema in the young may be due to widely different causes. It may be the expression of faulty processes relating to food utilisation or the evidence of an immediate reaction against specific food substances. On the other hand, it may be due to conditions entirely external. The causative factors in eczema from internal sources are discussed. The management of eczema, especially from the dietetic point of view, is considered. The author is not in accord with any theory relating to a special constitutional state such as the exudative diathesis as necessary for eczema, for the following reasons: that a combination of high butter fat, high sugar of the arts, orange juice and beef juice will produce an eczema in many children who never show the condition when normally fed. Further, eczema may be produced by many foods of widely varying types. One reason for the frequency of eczema in children is because the child is unable to adjust itself to the many varieties of food and food elements which are given him, whether natural or artificial. J. ALLAN.

Staphylococcia with xerodermia ('*Lancet*,' 1916, I, *p.* 733).—**G. Pernet,** at a meeting of the Royal Society of Medicine, Section of Dermatology, showed a case of staphylococcia in a girl with xerodermia (staphylococcia *en nappe et en foyers à progression excentrique*). He objected to the suggested diagnosis of eczema, as the lesions began as pustules, on a xerodermic skin, and not until the child was two years old.

J. ALLAN.

A case of grouped comedones ('*Med. Press*,' 1916, II, *p.* 477).—**G. W. Sequeira,** at the New London Dermatological Society, showed a case in a boy, aged 7 years, who presented on his forehead grouped comedones, densely packed and symmetrically placed. The usual sites in the young are the upper part of the forehead and occiput in boys, and temples in girls, and the cheeks in infants at the breast. Occasionally the eruption occurs in other situations. It does not seem to bear the relationship to acne that the ordinary comedo does. These comedones are usually smaller, more densely packed, and grouped as in the case shown. The contents are rather firmer, they do not often inflame spontaneously, but do so if roughly squeezed. The cause of the affection is not definitely known, but the spores of Malassez are present in large numbers. Crocker was of opinion that dyspepsia was the most common cause. The cases seen by the author have all been due to local irritation. Warmth and moisture seem to contribute to the cause. It sometimes develops simultaneously in several members of a family and also in schools, suggesting a contagious or bacterial factor. Infection from cups is also a probable cause. J. Allan.

Fungoid bromoderma: a case of bromide eruption (‘*Urol. and Cut. Rev.*,’ 1917, xxi, *p.* 203).—**M. Scholtz** records a case in an infant twenty months’ old suffering from restlessness, who was being treated with one grain doses of sodium bromide three hourly. Two bottles of a two ounce mixture were used by the doctor’s orders and a third was refilled by the mother herself. While the third bottle was being taken the eruption appeared first on the legs, and then on the thighs, forearms, arms, and face. The trunk, hands, and feet escaped. On the face the lesions resembled severe smallpox in the stage previous to pustulation. The discrete lesions on the upper limbs simulated closely erythema multiforme. The confluent patches just above the ankles were very suggestive of fungoid granulomata of blastomycosis type or pigmented sarcomata. At the same time all the lesions could be taken for tertiary syphilides. Treatment consisted in elimination through the kidneys and intestines and external applications of saturated solution of alum acetate and Goulard’s extract equal parts, a tablespoonful to a glass of water. The disappearance of the lesions was slow. J. D. Rolleston.

Chromidrosis and bromidrosis in a girl of 14 (‘*Arch. de Méd. des Enf.*,’ 1917, xx, *p.* 147).—**J. Comby.**—The patient was a nervous and anæmic child, who presented keratosis pilaris, fœtid hyperidrosis especially in the axillæ, which stained the linen black (melanidrosis). Non-gonococcal leucorrhœa was present. J. D. Rolleston.

Treatment of psoriasis (‘*Med. Press*,’ 1917, i, *p.* 106).—**W. K. Sibley** at a meeting of the London Dermatological Society brought forward a case of psoriasis in a patient, aged 13 years, which was of seven years’ duration. He said that his experience was that where there was renal disturbance, extract of burdock was the best kind of treatment, and where there was gastro-intestinal disturbance, he used intra-muscular injections of emetine 1 gr. with good results. J. Allan.

Congenital syphilis (‘*New York Med. Journ.*,’ 1916, civ, *p.* 293).—**F. Wise.**—Mueller’s plan consists of either twelve calomel injections combined with eight of neosalvarsan 0·005 to 0·15 grm., or a six weeks’ inunction course of ung. cinereum, also combined with eight neosalvarsan injections. Both courses extend over three months, then after a three months’ rest another similar course is given followed by a third course after another rest of three months. In nursing infants it is best to avoid inunction on account of the delicacy of the skin and its small cells, then he employs 0·001 grm. of calomel and 0·015 grm. of neosalvarsan per kgm of body weight. The injections are given in the nates, but the neosalvarsan is best given into the veins of the scalp or leg. After these courses the Wassermann reaction is taken and upon this depends the question of further treatment.

J. Porter Parkinson.

Observations of 100 cases of the infantile type of hereditary syphilis (*'Am. Journ. Dis. Child.,'* 1916, xi, *p.* 177).—**B. S. Veeder** and **P. C. Jeans.**—A syphilitic rash or cutaneous lesion of some type was present in 77, and absent in 23. Rhinitis was present to a greater or less extent in 74, and absent in 26. In 82 the spleen was definitely palpable, and in 18 it could not be felt. Epiphysitis or Parrot's pseudo-paralysis was present in 14 and absent in 86. Of 77 whose weight was recorded, 7 were over weight, 10 of average weight, and 60 below the average. In 85 per cent. the symptoms appeared in the first two months of life and about two-thirds of these in the first month. Rhinitis was the most frequent earliest symptom. The Wassermann reaction, which was made in 82 cases, was positive in 92·6 per cent., doubtful in 1·3 per cent., and negative in 6·1 per cent. Most of the negative findings were in the first few weeks of life. Practically all the deaths occurred in the first few months. As a general rule, infants over 10 months do not die of syphilis itself. Of the 100 cases 28 were known to be dead, 28 were alive and over 10 months, and 44 were alive and under 10 months. Of these last 12 were in an absolutely hopeless state, so that the mortality would probably be 40 per cent. The mortality of the artificially-fed infants was much higher than that of the breast-fed. The best results were obtained by two injections of neo-salvarsan, given in doses of ·075 grm. to ·15 grm. into the median or external jugular vein with a three day interval, followed by a series of courses of grey powder (1·5 gr. t.d.) of a month or six weeks with an interval of ten days to two weeks between the courses. These should be continued well into the second year till the Wassermann reaction becomes negative. J. D. Rolleston.

Frequency of hereditary syphilis (*'Amer. Journ. Dis. Child.,'* 1916, xii, *p.* 355).—**F. S. Spooner** and **R. S. Austin.**—The literature on the incidence of hereditary syphilis shows a wide range of results, the estimates varying from 2 to 14 per cent. in Europe and America. A study of 695 patients in the Children's Memorial Hospital at Chicago during the winter of 1915–16, including clinical and laboratory methods of investigation, showed an incidence of 3·3 per cent. The amount of hereditary syphilis among hospital infants and children in New York, St. Louis, San Francisco, and Chicago appears to range from 2–6 per cent. J. D. Rolleston.

Hereditary syphilis in children (*'New York State Journ. Med.,'* 1916, xvi, *p.* 125).—**L. E. La Fetra** reviews the later manifestations after the age of one year and discusses the significance of various signs and symptoms. The most characteristic manifestations of late hereditary syphilis are the changes that take place in the long bones. There is either a simple hyperplastic periostitis or osteoperiostitis or a gummatous osteoperiostitis or a gummatous osteomyelitis. The most important lesson one derives from a consideration of the symptoms and signs is the well worn conclusion that an early diagnosis with its corollary of vigorous treatment is of the highest possible value to the patient. As an aid to this early diagnosis in doubtful cases the Wassermann test, carefully made by a competent man, may be relied upon absolutely. It is exceedingly rare that the test fails to comport with the physical signs, and in such cases there is usually either delay in having the blood reach the laboratory, the serum becoming anti-complimentary, or there is something wrong with the antigens used in the test. The more frequently the Wassermann test is employed—especially in mental and nervous cases—the greater number of correct diagnoses we shall make, and the greater our success in treating these distressing conditions.

J. Allan.

Landau's reaction in congenital syphilis ('*La Pediatria*,' 1916, xxiv, *p.* 129).—**L. Chiaravalloti** practised Landau's new technique on 424 cases, of which 373 were syphilitic, including cases which, although clinically definite, did not react positively to serum diagnosis, and 50 definitely non-syphilitic. His conclusions were that Landau's reaction was specific for syphilis, that its sensitiveness was greater than Wassermann's but less than that of Noguchi, and that the percentage of positive reactions was greater in latent forms. The modified technique was as follows: A solution of 1 per cent. iodine in tetrachloride of carbon was used, of which 0·10 c.c., which must be recently prepared and clear, was added to 0·20 c.c. of serum, which must also be fresh and clear, neither lipæmic nor containing hæmoglobin. The mixture is left for 4½ hours without shaking. Syphilitic serum then assumes a clear yellow tint, while normal serum becomes cloudy grey.

Vincent Dickinson.

The so-called "post-erosive syphiloids" of Jacquet ('*Riv. di Clin. Pediat.*,' 1917, xv, *p.* 281).—**C. Vignolo-Lutati** reviews the subject of dermatitis in the new-born infant, calling particular attention to those forms of erythema described by Jacquet in 1886. In the case of a badly-nourished child of 5 months the internal surfaces of the nates, thighs, and neighbourhood of the arms and vulva showed a number of lenticular elevations, somewhat hard, abraded on the surface, moist, red and shiny, circumscribed by a thin edge of whitish epidermis. The Wassermann reaction was negative, and spirochætes could not be detected in the scrapings. A bioscopy showed three stages in the eruption: (1) Erythematous, equivalent to the variety erythema simplex or dermatitis of the first degree; (2) papuloid; (3) vesicular, equivalent to erythema vesiculosum or dermatitis of the second degree. When from rupture of the vesicles the eroded surface of the papules remains necessarily exposed owing to the seat of the lesion to the irritant action of friction, fæces, urine, and subsequent secondary infection, the morphological appearance becomes modified and produces an exaggeration of its essential characteristics—*i. e.* post-erosive papular erythema or post-erosive syphiloid. The infant, however, must be regarded with suspicion until the necessary serological investigations have been carried out. An ointment of 10 per cent. dermatol and treatment by lactic ferments will usually effect a cure.

Vincent Dickinson.

Syphilitic bone and joint lesions simulating tuberculosis ('*Journ. Amer. Med. Assoc.*,' 1917, lxviii, *p.* 366).—**A. L. Fisher** draws attention to the similarity which exists between syphilitic and tuberculous lesions of the bones and joints. He has seen eighteen such cases, and a consideration of them raises several interesting questions: Why do we get so many negative Wassermann reactions in bone syphilis? The percentage seems fairly high, at least 10 per cent. Is it because of the chronicity of the disease, and the lack of amboceptors in the blood, not sufficient being set free to bind the complement? In a manner, it is, perhaps, somewhat comparable to the fact that in a chronic, pyogenic abscess there is no increased leukocytosis. Another point that these cases emphasises is that fixation of syphilitic joint neither gives relief nor aids in a restitution of the part to normal. Another point is the large proportion of children in these cases, eight out of eighteen, or really eight out of fourteen, being under ten years of age, quite a contrast to the ordinary teaching that syphilitic joints are not common in childhood. The therapeutic test is the most reliable in the diagnosis of syphilis, and this should never be omitted in trying to arrive at a conclusion as to the nature of a chronic process in and about a joint.

T. R. Whipham.

Syphilis with neurological symptoms simulating other conditions ('*Journn. Amer. Med. Assoc.,*' 1916, LXVII, *p.* 1497).—**D. A. Haller** and **I. C. Walker** point out that syphilis affecting the nervous system may easily be mistaken for other diseases. Among the cases quoted is that of a boy, aged 3½ years. There was no history of syphilitic infection, and there were no symptoms suggestive of syphilis in either of the parents or in the child. Both parents gave a negative blood serum Wassermann reaction. The child had had no previous illness, except scurvy at the age of 1 year. During the six months previous to admission to the hospital the child had had some discomfort about the right ear. For two months previously he had had headaches of varying intensity with occasional vomiting. One month previously he had had some retraction of the head of three days' duration. One week previously he had had an increase in severity of all these symptoms. Four days previously the symptoms had presented a picture of meningitis, and antimeningococcus serum was given intraspinally. Following this, two lumbar punctures had been performed, but at no time were any organisms found in the spinal fluid. On admission to the hospital, the child showed evidences of an acute meningitis. His temperature was 103° F., and his pulse was 180 per minute. There was retraction of the neck and a double Kernig's sign. There was slight photophobia, and the pupils were moderately dilated. He moaned continuously, and screamed with pain whenever an attempt was made to move him. The white blood count was 29,000 per cubic millimetre. A differential count showed 70 per cent. polymorphonuclears, 18 per cent. small mononuclears, and 12 per cent. large mononuclears. The Wassermann reaction in the blood serum was strongly positive. The spinal fluid was purulent and contained 9800 white cells per cubic millimetre; the differential count showed 62 per cent. lymphocytes, 26 per cent. polymorphonuclears, and 12 per cent. endothelial cells. The Wassermann reaction in the spinal fluid was positive with 0·1 c.c. The child was under observation for 11 days without treatment, and without any change in his condition except for temporary relief following lumbar puncture. Treatment was then begun with intraspinal injections of salvarsanised serum at frequent intervals, and an occasional dose of salvarsan was given intravenously. The child improved rapidly, and returned to normal except for partial deafness. In 4 months the Wassermann reaction in the blood serum became negative, and in the spinal fluid it became negative with 2 c.c. The spinal fluid showed a cell count of 5 per cubic millimetre and a negative globulin test. One year has elapsed since treatment was begun, and the patient continues free from symptoms.

T. R. Whipham.

Syphilis in the parents as a cause of feeble-mindedness in the children ('*New York State Journ. Med.,*' 1916, xvi, *p.* 129).—**H. H. Goddard** maintains that syphilis is not an important ætiological factor in feeble-mindedness and he asks, if syphilis is a cause of feeble-mindedness, and if syphilis is as prevalent as it is believed to be, can we escape the conviction that the percentage of feeble-minded people would be enormously increased over our present estimate? So far as is evident from this study, it would seem that syphilis causes general paralysis, death in infancy, miscarriage, physical deformities and abnormalities, but not feeble-mindedness. In other words, it is too powerful a poison merely to maim the offspring. It kills. J. ALLAN.

The value of the Wassermann reaction in mental deficiency: Study of 78 cases ('*Arch. of Ped.,*' 1916, XXXIII, *p.* 273).—**A. Gordon.**—50 per cent. gave a positive serum reaction, and in 17, in which the spinal fluid was also obtained, the Wassermann reaction was parallel in both except in 3 cases. Every one of the positive cases was treated with anti-syphilitic remedies. Improvement in general health was observed in all so treated. The defective mentality in idiots and genuine imbeciles remained irresponsive. The feeble-minded with epilepsy showed decided improvement, but the most striking improvement was obtained in weak-minded children with functional nervous disturbances. J. D. ROLLESTON.

Syphilis as an ætiological factor in Mongolian idiocy ('*Journ. Amer. Med. Assoc.,*' 1917, LXVIII, *p.* 777).—**J. E. McClelland** and **H. O. Ruh** disprove the statements of Stevens and others that there is a connection between Mongolian idiocy and syphilis (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1915, xii, p. 255; 1916, xiii, p. 255). From their investigations on a series of cases they come to the conclusion that it cannot be stated at the present time that Mongolism is due to congenital syphilis.

T. R. WHIPHAM.

Treatment.

The intravenous and intramuscular administration of diphtheria antitoxin ('*Journ. Missouri State Med. Assoc.,*' 1915, XII, *p.* 145).—**B. S. Veeder.**—The following rules are adopted at the St. Louis Children's Hospital. All patients with clinical diphtheria receive antitoxin on admission, regardless of whether or not a culture has been taken. In mild and moderately severe cases from 3000 to 5000 units are given intramuscularly. In all severe or septic cases, and in all cases with laryngeal involvement, 5000 units are given intravenously. All cases seen late (fourth day) are given antitoxin intravenously if the membrane is at all extensive. Individuals exposed to diphtheria are given an intradermic diphtheria toxin test (Schick test). In case the toxin reaction is positive in 24 hours, 1000 units of antitoxin are given subcutaneously in older children, and 500 units in children under two years. J. D. ROLLESTON.

Considerations and experiments on cases of diphtheria treated without serum ('*Riv. di Clin. Pediat.,*' 1916, XIV, *p.* 1).—**E. Modigliani** treated 282 cases of diphtheria at the Policlinico, Rome, all bacteriologically verified, 120 with serum and 162 without. He found that in the serum treated the fauces became clean on an average in from three to five days, calculating from the commencement of the treatment. The specific organism remained in the naso-pharynx and larynx for a long time afterwards from a minimum of 38 to a maximum of 84 days. In analogous cases in form, localisation, and extent treated without serum, the fauces became clean on an average in from 9 to 15 days, calculating from the day the cases came under observation, usually the third or fourth day of the disease. Examination for organisms in the nasal, pharyngeal and laryngeal secretion was negative in a much shorter time than in the serum treated, after the fauces were clean, generally two to three days only. Other researches made by the author were (1) On the microscopic evolution of the false membrane and cellular reactions and the focus of infection. It was found that leucocytosis was part of the pathological process in itself, most active superficially where there was membrane. There seemed to be no greater number of leucocytes in the cases not serum treated compared with those so treated. The study of phagocytosis is rendered nugatory by the presence of other organisms. (2) Deviation of complement. The author never succeeded in verifying this either by the presence of antibodies or antigen in the blood of diphtheritics. These results differ from those of other observers. (3) Modification of the virulence of the organism. Cases treated without serum; the virulence was marked in the first days of the disease, causing death in animals in two to four days, then became gradually attenuated and almost disappeared. Cases treated with serum; the virulence in the first days was about the same as in the previous case, but became only slightly attenuated after the fauces were clean so as to kill guinea pigs in from five to seven days. It remained marked for about nine days after clinical cure and only disappeared about twenty-six days later. VINCENT DICKENSON.

Post-diphtheritic paralysis and serotherapy (‘*Riv. di Clin. Pediat.*,’ 1916, xiv, *p.* 70).—**A. Melchiorri** describes four cases, in which before injecting the serum he ascertained the amount of antibodies in the blood serum in order to throw light on the question whether, since the paralysis is a toxic polyneuritis, the use of serum would still further damage the nervous system already poisoned by the toxin. An intra-dermo reaction was practised with diphtheritic toxin diluted to 1 in 1000, with negative result. This indicated that in the blood serum of these patients antibodies were present in sufficient quantities to neutralise the effect of the toxin. Meanwhile, in all four the use of antidiphtheritic serum in massive doses repeatedly given had negative or harmful results. The blood serum of these patients contained a large quantity of antibodies, from which fact it may be concluded that none of the tissues contained toxin in the least degree fixed in the cells, and even if any existed, it would be neutralised by the circulating antitoxins which, on the contrary, remained unutilised. In face of these facts, the author asks whether the serum can still be considered a specific in post-diphtheritic paralysis. In one of the patients the author used Sclavo’s bivalent serum without appreciable result, which shows that, whether the toxin be exo- or endo-toxin, specific serotherapy, even practised with bivalent serum, is not efficacious in paralysis. In the majority of cases nature provides the means of repairing the damage caused to the nervous system by the intoxication. It must, however, be recognised that serotherapy is an efficient preventive of post-diphtheritic paralysis if used in massive doses in the earliest stages of the disease.

VINCENT DICKINSON.

The treatment of diphtheria carriers (*'Journ. de Méd. de Paris,'* 1916, xxxv, *p.* 133).—**Lahr** and **Canat** believe in lavage of the throat with Labarraque's solution, and introduce morning and evening 10 per cent. ointment of resorcin into the nasal fossæ and swab the throat with 1 in 30 iodised glycerine. The bacilli usually disappear in fifteen to forty days. Other cases have been treated by pulverised antimicrobic serum insufflated four times daily into the nostrils. Under this treatment the bacilli disappear usually in twenty-four days. A comparison shows the greater value of the antimicrobic remedy over the purely antiseptic method.

J. Porter Parkinson.

Treatment of scarlet fever by salicylates (*'Journ. de Méd. de Paris,'* 1916, xxxv, *p.* 133).—**Ramond** and **Schultz** consider that scarlet fever has many analogies to acute rheumatism, and urge the treatment by salicylates from the beginning of the disease till the temperature has become normal, and again from the fifteenth to the twentieth day, even if there are no new phenomena, as it is then that complications are apt to appear, even in mild cases. At the commencement a medium dose is 6 grm. a day, on the fifteenth day a similar dose may be given, diminishing a gramme a day till the twentieth day. They consider that the fever falls sooner, and the complications are lessened by this treatment, especially the early nephritis, in later nephritis the dose of salicylate should not exceed 2 grm. daily as it may exceptionally be poorly excreted, and then may become dangerous.

J. Porter Parkinson.

The treatment of scarlet fever with fresh blood from convalescent patients (*'New York State Journ. Med.,'* 1916, xvi, *p.* 112).—**A. Zingher** utilised this treatment in fourteen cases of malignant scarlet fever with gratifying results. The blood is injected intra-muscularly. The blood obtained from the donor may either be injected directly, or it may be previously citrated by adding an ounce of blood to 1 c.c. of a 10 per cent. solution of sodium citrate, making the final dilution of the citrate 0·33 per cent. The following muscles of the patient are chosen and a syringe full of blood is injected into each place: gluteal regions, the outer regions of the thighs, the calves, and the triceps muscles. Four ounces of blood can easily be injected into a young child, and eight ounces into an older child or an adult. The absorption of the blood-mass from the muscles takes place rapidly, and, as a rule, without any further local irritation. At the end of twenty-four hours the muscles will be found to have regained their former size and consistence. The effect of convalescent blood or serum in suitable cases of scarlet fever may be summarised with regard to the following symptoms: 1. Temperature—the decline begins within two to four hours after the injection and reaches its lowest point in nine to fourteen hours. Occasionally we see a slight elevation in temperature immediately after the injection; but this is only of a transitory nature. If secondary septic symptoms are present, the temperature will rise again and often persist for a few days. 2. Pulse becomes stronger, steadier, and slower, as compared with the usual rapid soft pulse of toxic scarlet fever. 3. Cardiac symptoms and cyanosis improve. 4. Respiration becomes more normal. 5. General condition improves perceptibly; a normal mental condition replaces the delirium and apathy. Subjective symptoms disappear. 6. Rash fades rapidly. 7. No influence, however, is directly apparent upon the secondary septic complications, like glands, joints, ear infections, and exudate in the throat. The author believes that if any benefit is to be derived from convalescent blood, it must be brought into play early, before the patient is overcome with the toxæmia.

J. Allan.

Treatment of whooping cough ('*Journ. de Méd. de Paris,*' 1916, xxxv, *p.* 135).—**Satre** considers bromoform one of the most useful drugs as it loosens the cough and stops the vomiting. Terpine in doses of twenty-five to seventy-five centigrammes is very satisfactory. Sulphate of quinine is generally given in too small doses. Satre gives daily as many times twenty centigrammes as the child is years old, diminishing at once when an effect has been produced. J. Porter Parkinson.

Treatment of pertussis ('*Amer. Journ. Obst.,*' 1916, lxxiii, *p.* 551).—**I. L. Polozker** treated 100 cases all of whom were children aged from under 1 year to 12 years, except a woman aged 36 years. All but the woman who refused it received pertussis vaccine, an injection being given every fourth day. Early in the disease a mixed vaccine and later the Bordet bacilli alone were used. The vaccine was also used as a prophylactic in healthy children, but all contracted the disease. During the day the children were kept out of doors and at night in the sleeping room inhalations of some volatile oil, such as oil of tar, eucalyptus or creasote was given. According to the medical treatment the patients were divided into ten groups, the first received fluoriform water, the second belladonna, the third heroin and sodium bromide, the fourth adrenalin solution, the fifth antipyrin and opium, the sixth chloretone, the seventh pertussin and diatussin, the eighth bromoform, the ninth the vaso-cresoline lamp, and chloral in the spasmodic stage, the tenth quinine or euquinine. Whatever the medicament used, the disease ran its usual course. Polozker insists on the importance of early diagnosis by blood examination and the complement deviation test and the necessity of isolation. J. D. Rolleston.

The therapeutic value of pertussis vaccine in whooping-cough ('*Journ. Amer. Med. Assoc.,*' 1917, lxviii, *p.* 1451).—**A. I. von Sholly, J. Blum,** and **L. Smith** give a guarded report as to the value of a specific vaccine in whooping-cough, and consider that more observations with control for comparison must be made before the curative and protective value of a specific pertussis vaccine can be proved. T. R. Whipham.

Pertussis vaccine ('*Journ. Amer. Med. Assoc.,*' 1917, lxviii, *p.* 1461).—**P. Luttinger** states that the results obtained would warrant the routine administration of pertussis vaccine for both curative and prophylactic purposes. The best time to institute the vaccine treatment, except as a prophylactic, is the first and second week of the paroxysmal stage. When the proper vaccine is given and in the method described the disease is materially reduced in duration and severity. The presence of subconjunctival hæmorrhages in prophylactic cases which were protected by the vaccine seems to point to its specific immunising action against the paroxysms and to the fallacy of the hitherto accepted theory that these hæmorrhages are due to the violence of the cough. T. R. Whipham.

Vaccine therapy in whooping-cough ('*La Pediatria,*' 1917, xxv, *p.* 358).—**G. Caronia** used the following method in 155 cases. Plate cultures of Bordet-Gengou of 48 hours' development are emulsified in distilled water with 0·5 per cent. phenol and left for 3 days at the ordinary temperature. Then 0·85 per cent. sodium chloride is added and the dosage graduated to contain 2,000,000,000 germs per c.c. The vaccine thus prepared is injected subcutaneously or intramuscularly in daily doses of 1 c.c., or alternate days, until cure or mitigation of symptoms. For prophylaxis 2–3 injections are practised at intervals of 48 hours. The benefit was evident after the first injection, and cure usually resulted after 3–5. Some cases required 8–10. Of the 155 cases 61 per cent. were cured, 32 per cent. improved, and 6 per cent. remained stationary.

VINCENT DICKINSON.

Clinical observations on the curative effect of a new anti-typhoid vaccine (‘*La Pediatria*,’ 1916, xxiv, *p.* 6).—**G. di Cristina** states that four methods have been hitherto adopted in the preparation of anti-typhoid vaccine: (1) That prepared with attenuated living bacteria—*e. g.* Castellani's and Besredka, No. 1; (2) that prepared by cultures of bacilli rendered inactive by heat—*e. g.* Wright-Leishman, Pfeiffer and Kolle, Bussel, Besredka No. 2, Loeffler, and Vincent No. 1; (3) that obtained from the products of autolysis of inactive bacilli—*e. g.* Wassermann, Sclavo; (4) that prepared by extraction from living bacilli—*e. g.* Basseuge and Mayer, Vincent No. 2. The author has experimented with a vaccine differing in preparation from any of these. The technique is as follows: The bacteria are subjected to lysis during the initial phase of their development, and a product is obtained which contains in a large degree the derivatives of bacterial proteolysis. The advantage is a vaccine easily dosable, of constant type, which facilitates the fixing of efficacious doses for each case. It is free from any toxic action, and, when inoculated, does not cause any permanent disturbance such as to render it dangerous. Injected intramuscularly or, preferably, intravenous, it is effective in a few hours or days. After intramuscular injection, in a few hours there is a rise of temperature of 1–2°, which then falls; there may also be a rigor. The site of injection becomes red and painful, but only for a few days. After intravenous injection, a kind of anaphylactic shock occurs similar to that caused by injecting heterogenous albumin into sensitised animals. Half an hour after injection there is a rigor and rapid rise of temperature. This lasts 2–6 hours, and is followed by a rapid decline to 35·5° C. During the rigor there may be a slight degree of cyanosis, dyspnœa, and lowering of blood-pressure. The pulse becomes small and rapid. This condition may last some hours, and gradually disappears. Twenty-one cases are described in detail with temperature charts, and may be divided into four groups: (1) Initial cases, slight or grave, as shown by specific agglutinin reaction; (2) those well developed; (3) those in period of defervescence; (4) those with complications. In the first group rapid defervescence occurred with remission of all the symptoms, or else a much modified thermic curve with ample remissions, or an intermittent type lasting a short time with general amelioration. The second group responded equally and in a marked degree. The cases in Group 3 were characterised by a greater sensibility towards the vaccine, and formed the larger contingent of defervescence by crisis. Those in Group 4 were more resistant to the action of the vaccine, but always presented some improvement. There were no fatal cases. VINCENT DICKINSON.

New methods of antityphoid vaccine therapy (‘*La Pediatria*,’ 1917, xxv, *p.* 1).—**G. Caronia** has been experimenting for more than a year in the treatment of cases of typhoid and paratyphoid by a vaccine prepared on Di Cristina's method, which has the advantages of not containing any extraneous albumin such as meat-juice or rabbit's serum, and of containing a larger amount of the products of bacterial lysis. Out of 46 cases 7 were in the first period, 14 in the second, 11 in the third, 10 had complications, and 4 were mixed forms. In cases of the first group success was invariable and often rapid, especially in those treated by the intravenous method. In some, defervescence occurred by crisis after one or two injections; in others, by lysis after several injections. In some cases after a rapid fall of temperature, a long period of subfebrile intermittence took place, without any general disturbance except a certain degree of asthenia. In cases of the second group the influence of the vaccine was equally constant and more or less rapid, but the fall of temperature was more gradual, and a series of marked remittences or intermittences was common, while generally there was greater resistance of the fever to the vaccine. In the third group vaccine therapy in uncomplicated cases gave the most brilliant results; generally there was defervescence by crisis after one, or at most two, injections, whether intravenous or muscular. In the fourth group success was less apparent, but the good effect of the vaccine was seen on the general condition, while the complications ran a more favourable course. Intravenous injections gave rise to no unfavourable symptoms, but had no advantage over the intramuscular except greater rapidity of action. The efficacy of the vaccine did not lie in its mode of introduction but in the method of preparation.

VINCENT DICKINSON.

New methods of vaccine therapy in Malta fever ('*La Pediatria,*' 1917, xxv, *p.* 199).—**G. Caronia** prepares two kinds of vaccine as follows: (1) Various strains of *M. melitensis* are developed at a temperature of 37° C. for 2–3 days on glycerinated agar. The cultures are placed in normal saline, and fresh serum from patients or convalescents containing an appreciable quantity of agglutinins and amboceptors is then added. This mixture is kept at 37° C. for 36 hours, and then a further addition of serum is made and kept for another 36 hours at 37° C., after which ½ per cent. carbolic acid is added and centrifugalised gently to separate the undestroyed organisms. After keeping for 1 hour at 55° C. for three consecutive days it is put up in ampoules. (2) The strains are inoculated on meat-juice and developed for 2–3 days at 37° C., and 5-10 per cent. of serum as before added and then left for 72 hours at 37° C., adding after 36 hours another quantity of serum. After the 72 hours phenol is added as in the first method. Both these vaccines possessed the same curative property, and whether injected intravenously or subcutaneously were equally efficacious. There was always a febrile reaction, and while in some cases the temperature fell rapidly after one or two injections, in others it was only lessened, but always ended in falling rapidly by persistent use of the vaccine.

VINCENT DICKINSON.

Antimeningococcal serumtherapy in infants ('*La Pediatria,*' 1915, xxiii, *p.* 753).—**R. Jemma** strongly advocates intraspinal serumtherapy as the most reliable treatment of meningococcal meningitis in infants, affirming that the mortality has thereby been reduced from 50 or 80 per cent. in various epidemics to 10·6 per cent. Unsuccessful results are due either to insufficient quantity of serum used, especially in the early injections, or to the fact that the serum had lost, or deteriorated in, its antitoxic power, or because instead of the meningococcus the morbid agent of the meningitis was a parameningococcus, which is of rare occurrence, and on which too much importance must not be placed from a practical point of view. The author draws attention to the value of warm baths as a useful addition to the treatment, of a temperature from 39°–40° C., repeated two or three times in the twenty-four hours. They have the effect of allaying pain and alleviating the contractures. Ice-bags ease the headache, but should not be used if the child becomes more restless from them. Urotropine is probably useful in doses of 1–3 grm. daily, and certainly does no harm.

VINCENT DICKINSON.

Serum therapy in epidemic cerebro-spinal meningitis (*'La Pediatria,'* 1917, xxv, *p.* 321).—**A. Longo** draws the following conclusions from the epidemic in Catania in 1915: During the epidemic, which consisted mainly of mild cases, serum therapy was very efficacious, for in the municipal hospital where it was largely adopted the mortality was 33·7 per cent., whereas in the town, where the majority of cases were not thus treated, it was 62·2 per cent. Moreover, in 19 cases thoroughly treated there were no deaths or complications, while in 3 cases insufficiently treated (one or two injections at most) and in 12 untreated only 2 complete cures resulted, 7 died, and 6 developed serious complications of the nervous system—*i. e.* deafness and dementia, general convulsions, hydrocephalus and blindness. Among the factors which contribute to the inefficacy of serum therapy in some cases great importance is attached to the eventual existence of adhesions more or less numerous or extensive among the folds of the lepto-meninges which may frustrate the serotherapeutic action by cutting off tracts of the meninges. The existence of such adhesions may perhaps also explain the frequence of relapses. Nephritis is no contra-indication to the use of serum. The author met with severe cases of serum disease, and considers that the problem of its prevention is not yet solved. VINCENT DICKINSON.

Congestion in the treatment of cases of epidemic cerebro-spinal meningitis (*'Lancet,'* 1916, I, *p.* 1075).—**D. Forbes** and **E. Cohen** point out that the treatment advocated is simple and does not interfere with concurrent treatment. Congestion of the cerebral vessels is brought about by raising the foot of the bed not simply on the usual ward blocks, but on stools or lockers, so that the bed and the patient's body, no pillow being allowed, make an angle of from 14° to 23° with the floor. Male infant, aged 7 months. Puncture alone was tried. The spinal fluid contained large numbers of organisms, both intra- and extra-cellular. As a last resort on the morning of the sixteenth day of illness, 2 c.c. of the serum of a convalescent patient were injected intrathecally. The effect was astonishing, as the infant, who had required nasal feeding, resumed taking the bottle in the afternoon and seemed much better. The temperature gradually fell and was normal on the evening of the eighteenth day. The fluid at that time was hazy and showed few diplococci as compared with the large number previously present. Unfortunately the child became worse, his colour again became bad on the nineteenth day, and he vomited. He became progressively worse until the twenty-second day of illness, when a further 4 c.c. of the serum of the same convalescent was given and the cot was left raised at an angle of 20°. On the twenty-third and twenty-fourth days there was vomiting, but on the twenty-sixth day he seemed better and on the twenty-seventh day had a normal temperature. The child remaining well the cot was lowered on the thirty-sixth day at 10 a.m. At 2·30 p.m. there was vomiting. Thereafter the patient became fretful and vomited two or three times a day up to the fortieth day, when he was punctured and showed a clear fluid containing a few lymphocytes. The cot was again raised to an angle of 20° and he almost at once seemed to be better and comfortable. There was no further vomiting. The fluid being normal, the bed was lowered to blocks on the forty-seventh day and finally lowered altogether on the forty-eighth day. The recovery was uninterrupted. Notes on four cases in young adult males are also given. J. ALLAN.

The treatment of anterior poliomyelitis ('*New York State Journ. Med.*,' 1916, XVI, *p.* 386).—**C. Wallace** maintains that every effort should be exerted to prevent the disease by strict quarantine. Many hard hit cases can be saved from multiple paralyses by prolonged rest, competent medical treatment and careful nursing. Vicious deformities may be avoided by early and thorough orthopædic care. Operations give most salutary results when the cases are carefuly selected and the proper one performed. J. ALLAN.

Treatment of acute poliomyelitis ('*New York Med. Journ.*,' 1916, CIV, *p.* 337).—**S. J. Meltzer.**—Hexamethylenamine does not cut short the acute stage and does not cause a more satisfactory or rapid recovery. Subdural injection of serum from recovered patients has been said to give promising results, but the supply of this serum is very limited. The writer, as the result of some experiments on animals, suggest that the intrathecal injection of adrenalin is likely to be of benefit. Over seventy cases have been treated in this way, and in no case was any untoward result noted, and it was thought that some benefit resulted. The initial dose was 0·5 c.c. of a 1 in 1000 solution, and this was increased to 3 c.c. of the solution after three to six hours. It was tried only in advanced cases where paralysis of the respiratory centre was developing. It should be given immediately the diagnosis is established, first a fairly large quantity of spinal fluid is withdrawn, and then 2 c.c. of the 1 in 1000 solution injected every four to six hours. Oxygen should be given if any respiratory paralysis is present, for twenty or thirty minutes every two or three hours.
J. PORTER PARKINSON.

The treatment of infantile paralysis ('*New York Med. Journ.*,' 1916, CIV, *p.* 1042).—**H. W. Frauenthal** considers that the only satisfactory treatment in the early stage is the injection of serum from persons who have already had the disease. To prevent contraction deformities he objects to the use of plaster of Paris as producing atrophy from the confinement of the limb. He prefers aluminium splints, which can be removed for the bath, massage, etc. In the stage of pains hot baths or electric light baths relieve the patient. He recommends the use of the high frequency cement along the spine for ten minutes at a time every three hours for three days. He believes in the use of electricity at once when the paralysis appears, instead of waiting for some weeks, as is the general rule. He applies the sponge electrodes at the origin and insertion of the involved muscles. The strength of the currents should be the weakest that can produce contraction. Massage should be begun the moment the acute symptoms have disappeared. Warm baths produce an effect on the trophic centres and improve the temperature and growth of the limb. Muscle education, active and passive exercises before a mirror, have a great effect, and the writer believes that the motor conduction from the brain to the periphery may be carried on by other motor tracts through a new circuit passing around the damaged area in the cord. J. PORTER PARKINSON

The electrical treatment of infantile paralysis ('*New York Med. Journ.*,' 1916, CIV, *p.* 635).—**H. C. Frauenthal.**—The positive pole should be used on the paralysed muscles, the negative pole being placed centrally. The current should be interrupted seventy-two times a minute and the treatment should not exceed five minutes daily, using not over 10 milliampères of current. The child should try and contract the muscle while the treatment is carried on. Before the electrical treatment, the limb should be thoroughly warmed and massaged, and afterwards voluntary exercises should be given. The writer attributes a much greater value to electrical treatment than to massage, in the proportion of 55 to 10, while he allows 35 per cent. to physical culture. J. PORTER PARKINSON.

Specific treatment of infantile paralysis ('*Journ. Amer. Med. Assoc.*,' 1916, LXVII, *p.* 426).—**A. Sophian** recommends lumbar puncture, repeated if necessary, for the relief of hydrocephalus, which, he states, is, especially in cerebral cases, not infrequently pronounced. During the acute or preparalytic stage of the disease intrathecal injections of normal horse, or preferably, human serum, should be given with a view to producing a hyperleucocytosis in the cerebro-spinal fluid, and thus preventing paralysis or aborting the disease. The author has also used immune serum from convalescent cases, but the results were no better than with normal horse serum. For respiratory paralysis artificial respiration, or the administration of oxygen under pressure, is recommended. Cases are quoted in which the author employed the treatment he advocates, but they are very few in number.

T. R. WHIPHAM.

Immune human serum in the treatment of acute poliomyelitis ('*Journ. Amer. Med. Assoc.*,' 1916, LXVII, *p.* 1211).—**C. W. Wells** advocates the injection in cases of poliomyelitis of serum obtained from individuals who have recovered from the disease. Injections up to 50 c.c. may be given intravenously or intramuscularly, or from 10–15 c.c. intrathecally, or a combination of all three may be employed. Following the intravenous or intramuscular injections, from 5–15 c.c. of cerebro-spinal fluid should be withdrawn in order to reduce pressure and favour circulation in the central nervous system. The first intraspinal injection usually results in an increase in the number of leucocytes in the spinal fluid with an increased proportion of polymorphonuclear cells. No immediate effect is noticed upon the leucocyte count of the blood, which gradually drops to normal within a few days. No ill effects of this treatment have been observed, but in all cases after intravenous, and, to a less degree, after intraspinous, injection, a noticeable improvement usually occurs, but, unfortunately, this is in some cases only transient. The earlier the treatment is commenced the better.

T. R. WHIPHAM.

Infantile paralysis treated with immune serum ('*New York Med. Journ.*,' 1916, CIV, *p.* 1190).—**D. H. Petty** reports eleven cases treated by intradural injections of immune serum. Of these four died, three recovered without permanent paralysis, and the remainder recovered with more or less permanent paralysis. He believes the injections should be made very early, if possible, in the preparalytic stage, and the dose of serum should not exceed 10 c.c. J. PORTER PARKINSON.

Treatment of poliomyelitis with immune serum ('*New York State Journ. Med.,*' 1917, XVII, *p.* 279).—**E. Taylor** recounts his experiences in nineteen cases, all but one being 17 years of age or under. He reaches the following conclusions: (1) Serum taken from cases of three years' standing appears to influence the course of the disease. (2) Serum can be administered intraspinally by gravity method and intravenously without danger, if well known rules of precaution are observed. (3) Serum should be administered both intraspinally and intravenously. (4) Early diagnosis confirmed by microscopic and chemical examination of cerebro-spinal fluid, followed by administration of 30 c.c. or more of serum gives the best results. (5) The administration of serum after the acute febrile stage is over and definite paralysis has developed is useless. J. ALLAN.

Serum treatment of poliomyelitis ('*Arch. de Méd. des Enf.* 1916, XIX, *p.* 1).—**A. Netter** has treated thirty-two cases since 1910 by intraspinous injection of the serum of persons who have previously had an attack of poliomyelitis. In six recovery was rapid and complete, in three almost complete, seven showed very decided improvement, five appreciable improvement, though the action of the serum was open to doubt, and three showed no change. There were eight deaths, seven of which were due to extension to the bulb. The serum of persons who have had infantile paralysis keeps its efficacy more than thirty years, but as far as possible Netter has used the serum of subjects whose paralysis is of less than five years' duration. The serum is collected aseptically and sterilised by tyndallisation. It is taken from healthy persons in whom Wassermann's reaction has been performed. As a rule the injection should be repeated for eight consecutive days. The doses vary from 5–13 c.c. Human serum is better tolerated than horse serum but sometimes causes inflammatory reaction of the meninges. This usually consists only in changes in the cellular composition of the cerebro-spinal fluid, but is sometimes revealed by fever and pain. The symptoms are rarely intense and usually of short duration. J. D. ROLLESTON.

Open-air treatment of pneumonia and anæmia in children ('*Amer. Journ. Med. Sci.,*' 1916, CLI, *p.* 1).—**R. G. Freeman** alludes to the experiments on children with pneumonia (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1912, IX, *p.* 476) by Howland and Hoobler, who found a marked increase in blood-pressure from putting the children out of doors and an equal diminution in the blood pressure when they were returned to the closed wards of the hospital. Subsequent observers, however, have not confirmed these results. Freeman records the results of fresh-air treatment in the Roosevelt Hospital, New York, on a roof partly covered by a shed and enclosed on the north, east, and west sides. The children were kept there day and night in all weathers, being brought into the ward only to be changed, bathed, or dressed. The conditions which benefited most from the treatment were pneumonia, tuberculosis, anæmia, chorea, marasmus, and convalescence from any disease. Of twenty-one cases of uncomplicated lobar pneumonia the average course after admission was three days, and the mortality 4·7 per cent; of thirty-one cases of uncomplicated broncho-pneumonia the average course after admission was seven days, and the mortality 3·3 per cent. A detailed description is given of the good results of open-air treatment in simple anæmia in Jaksch's anæmia, and leukæmia with little or no drug treatment.

J. D. Rolleston.

Results of open-air treatment of pneumonia in children ('*Boston Med. and Surg. Journ.*,' 1916, clxxiv, *p.* 753)—**A. R. Cunningham** analyses 1500 cases of lobar pneumonia treated in the Boston Children's Hospital between December 1870 and July 1915. The open-air treatment was begun in the latter part of 1905. The figures show no improvement in the mortality and an increase in the percentage of empyema since the introduction of open-air treatment. Cunningham concludes that the results of open-air treatment as practised in the last ten years have not justified expectations, and that there is reason to believe that they are worse than those of the preceding ten years.

J. D. Rolleston.

Notes on the treatment of broncho-pneumonia in children ('*Practitioner*,' 1917, xcviii, *p.* 581).—**J. S. Measham** has treated seventeen cases of this disease in the following way: The chest is enveloped in a light Gamgee jacket and over it a pair of woollen combinations. A fire is kept always burning, the window always open, and the bed placed in a part of the room free from draughts. Frequent sips of cold water are given. No medicines are given by the mouth, but a subcutaneous injection of quinine hydrochloride is given morning and evening. A solution is prepared in which one grain is dissolved in ten minims of water, and the dosage is as follows: For a child under six months ♏v, under a year ♏x, under two years ♏xv, over two years ♏xx. Histories of the seventeen cases are given, two of which died, one from Bright's disease, and the other case was not seen until the seventh day.

F. R. B. Atkinson.

Interlobar empyema treated by artificial pneumothorax ('*Journ. Amer. Med. Assoc.*,' 1916, lxvi, *p.* 1019).—**A. E. Greer** reports the case of a boy, aged 5 years, who, after pneumonia, began to cough up an empyema. Physical signs and X rays located the pus between the upper and middle lobes on the right side. Paracentesis was negative, so artificial pneumothorax was induced. Within 24 hours the temperature fell to normal, and a great deal of pus was coughed up. The expectoration gradually decreased, and two further injections of nitrogen were made without inducing further cough. The boy made a good recovery.

T. R. Whipham.

Hay fever treated with the pollen extract ('*Journ. Amer. Med. Assoc.*,' 1916, lxvi, *p.* 738).—**Margaret L. Noyes** records two cases of hay fever, one of which was a child, aged 11 years. The family history was negative, but the child, who was anæmic, had had a similar attack the previous season. Nasal examination revealed the anterior ends of the inferior turbinates puffy and covered by a thin, watery discharge, causing complete obstruction. A severe reaction was obtained with both the ragweed and golden-rod pollen skin tests, and a weak solution of the former was given hypodermically according to the technique of Goodale. For two days there was local swelling and tenderness, as well as a swelling of the whole arm from elbow to shoulder. The symptoms disappeared, and there was no return.

T. R. Whipham.

The treatment of the disturbances of digestion in infancy ('*New York State Journ. Med.*,' 1916, XVI, *p.* 54).—**J. L. Morse** deals with the treatment of simple indigestion and indigestion with fermentation. The following classification of indigestion is adopted: 1. Indigestion from an excess of food; 2. Indigestion from an excess of an individual food element; (*a*) fat, (*b*) carbohydrate, (*c*) protein, (*d*) salts; 3. Indigestion with fermentation. In simple indigestion the treatment is mainly diatetic, and drugs are of little use. Indigestion with fermentation is much more serious, and the object to be aimed at in its treatment is the destruction, or, at least, the inhibition of the activity of the micro-organisms, which are the cause of the disease. Babies that are seriously ill with indigestion with fermentation are very likely to show one or more rather characteristic symptoms or groups of symptoms. One of these groups of symptoms almost invariably develops toward the end in fatal cases. These symptoms are: (*a*) excessive vomiting; (*b*) hyperpyrexia; (*c*) symptoms of irritation of the central nervous system; (*d*) prostration and collapse. It is probable that these symptoms are chiefly manifestations of toxæmia. It is presumable that the loss of water through the bowels may also play a part in their production. If, when any of these symptoms appear, there is any doubt as to whether the bowels have been thoroughly emptied, it is advisable to repeat the initial catharsis. It is also advisable, if the condition of the nutrition warrants it, to with hold food for about twelve hours. Caution must be exercised, however, about withdrawing food if the disturbance is due to proteolytic organisms. If there is excessive vomiting, food should be withdrawn entirely and the stomach washed out with a solution of sodium bicarbonate. The hyperpyrexia is best treated by the use of cold externally. It is seldom advisable to give coal tar products to infants to reduce the temperature. Bromide of sodium, in doses of from five to ten grains by the mouth, may be given for restlessness and excitement. It may be combined with one or two grains of chloral hydrate. It is useless to give drugs by enema in this condition, as they are almost never retained. Small doses of morphine subcutaneously may be necessary. If the fontanelle is full a lumbar puncture will often give relief. Prostration and collapse are to be treated as when they occur in other conditions. It must be remembered, however, that all forms of treatment weaken and exhaust the baby. The baby should be disturbed as little as possible. Alcohol is contra-indicated when these conditions are associated with vaso-motor paralysis and lowering of the blood-pressure. Adrenalin is of some value, but must be given subcutaneously or intravenously. Strychnia is in general the most useful of the stimulants, while caffein and camphor are the best quick stimulants.

J. ALLAN.

Results of treatment in Hodgkin's disease ('*Journ. Amer. Med. Assoc.*,' 1917, LXVIII, *p.* 747).—**J. L. Yates** and **C. H. Bunting** give the results of their clinical experience in treating 63 cases of Hodgkin's disease over a period of eight years. The principles of their treatment have already been described (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1916, xiii, p. 184). They estimate that in 20 per cent. of all cases recovery is possible. In acute cases the estimated possibility of recovery is less than 5 per cent., in incipient cases from 80 to 90 per cent., in early cases from 60 to 70 per cent., in moderately advanced cases from 30 to 40 per cent., and in advanced cases from 5 to 10 per cent. Very late cases appear to be fatal.

T. R. WHIPHAM.

The citrate method of blood transfusion in children (*'Amer. Journ. Med. Sci.,'* 1915, CL, *p.* 886).—**R. Lewisohn** finds 0·2 per cent. solution of sodium citrate suffices to prevent coagulation of the blood, while sodium citrate, used in the ratio of 1 per cent., would prove fatal in large transfusions of blood (1000 c.c.) The technique is the same as in adults (*'Journ. Amer. Med. Assoc.,'* 1915, LXIV, *p.* 425). Six cases are described.

F. R. B. ATKINSON.

The treatment of nephritis by adrenalin (*'Med. Press.,'* 1917, I, *p.* 258).—**I. Harris** reports a case in a school boy, aged 15 years, of undeveloped physique, and extremely pale appearance. He noticed swelling of the face and neck six months before admission to hospital, after an attack of eczema. Since then he had frequently suffered from ascites and swelling of lower limbs. When admitted he was suffering from general œdema. The heart dulness was, however, practically normal, and there has been no murmur of any kind; no accentuation of heart sounds; fundus oculi of both sides normal; urine, hyaline, fatty casts, leucocytes, albumin; blood-pressure 115 Hg. After being thirty-six days under treatment, adrenalin (10 minims of a 1 in 1000 solution four times a day, increased later to 15 minims by the mouth) was prescribed. The œdema disappeared and the albumin diminished considerably under its influence, and the patient was able to leave the hospital in a fair condition of health. J. ALLAN.

Heliotherapy in children (*'Riv. di Clin. Pediat.,'* 1916, XIV, *p.* 561).—**A. Filia** reports on the value of this method in Pott's disease, tuberculous peritonitis and secondary anæmias, and gives details of nine illustrative cases. The general results obtained show that this method is of application in any locality, whether on the hills or seaside, or even at home. This extension of its application and the good results obtained prove that it should be associated always with the medicinal and dietetic cure of children, whether they are suffering from osseous, peritoneal, incipient pulmonary, or glandular tuberculosis, or from acute or chronic intestinal disturbance, or simple, physical debility, or secondary anæmia, or mental overstrain.

VINCENT DICKINSON.

Bier's venous stasis in tuberculous meningitis and hydrocephalus (*Riv. di Clin. Pediat.*, 1916, XI, *p.* 337).—**G. Squarti** treated eight cases of typical tuberculous meningitis by Bier's method, without, however, preventing a fatal issue. But during the treatment he noticed that the cerebro-spinal fluid, which usually after removal by lumbar puncture rapidly re-collects, did not accumulate again under the influence of the venous stasis, so that lumbar puncture practised during and after a certain number of applications of the elastic band only drew off a very scanty amount of fluid. Convinced that this phenomenon had some connection, not with diminished secretion but with increased absorption of the cerebro-spinal fluid, the author tried the same method of treatment in hydrocephalic forms, and specially those which ran a more chronic course where there was evidently some impediment to re-absorption. Three marked cases are reported which had had prolonged treatment by various methods, including repeated lumbar and ventricular punctures, and which were then subjected to Bier's method. The procedure adopted was effected by the application of ordinary elastic tubing, 3–5 mm. in thickness, this being more suitable than an elastic band in view of the small size of the neck in young infants, often still further reduced by a position of opisthotonos. The application was invariably made in the dorsal decubitus and in the intervals between feeding, care being taken to apply the tube at the base of the neck to avoid pressure on the trachea. The tube is at first held with the requisite degree of tension which is gradually increased so as to produce a certain amount of cyanosis; after the tube is properly adjusted and there is no untoward incident it is fixed with an ordinary clip, preferably behind the sternomastoid. It is advisable that the tension of the tube should be made slowly so that first turgescence of the superficial veins occurs, then slight cyanosis of the lips and lobes of the ears and finally of the entire face, which is obtained in about 20 or 25 minutes. The duration of the applications was half an hour the first few days, afterwards an hour, and it was often repeated in the same day. Otherwise, the length of application and intensity of cyanosis had to be regulated according to the tolerance shown in various subjects. Usually the treatment was well borne; at first the child cried and became restless, but after the first few days it was soon quieted, and often fell asleep. The application could not be continued beyond one hour because the children cried, became breathless, and sometimes vomited. This occasionally happened in the first applications if they were not short and slight. The pulse was not modified as a rule. The results obtained were most satisfactory in the author's first two cases, where in about a month's time he obtained a marked diminution of the hydrocephalic effusion, with gradually lessening and final disappearance of all the nervous symptoms. In the third case, the most serious of all, treatment could not be continued for as long as the gravity of it required; nevertheless, considerable improvement ensued. These results are to be explained by our knowledge of the nature of the hydrocephalic lesions and the action of the stasis itself. The altered circulation, especially in the choroid plexuses, hinders absorption and produces accumulation of fluid in the cerebral ventricles, while, on the other hand, the venous stasis increases the capillary area and venous trunks, and thus improves the circulation and promotes more copious absorption. VINCENT DICKINSON.

Further experiences in the treatment of hydrocephalus by cisterna-sinus drainage (*'New York State Journ. Med.,'* 1916, XVI, *p.* 174).—**I. S. Haynes** thinks that hydrocephalus in the majority of cases is caused by an obstruction to the flow of the fluid from the lateral ventricles through the central channels of the brain into the great subarachnoid space-cisterna magna, and in treatment he advocates cisterna-sinus drainage which seeks to direct the fluid from the hydrocephalic cavity into the bloodstream through one of the cranial sinuses. The technique of the operation is fully described and illustrated and notes on twelve cases are appended.

J. ALLAN.

The present-day therapeutics of spasmophilia (*'La Pediatria,'* 1916, XXIV, *p.* 282).—**O. Cozzolino,** of the Children's Clinic at Parma, contributes an interesting review on this subject. Parathyroid opotherapy is discussed, and attention drawn to the probable divergence in therapeutic value of preparations from too old or too young animals as not containing sufficient quantities of the active principle. He considers that opotherapy in spasmophilia may, in the future, tend towards a pluriglandular, or at least a parathyro-thymic, opotherapy. He lays stress on the prophylactic value of proper feeding, and the importance of care of slight ailments which may favour the development of convulsive manifestations. Cold douches and inhalation of oxygen are considered more or less efficacious during the attacks, as are also enemata of chloral and bromide and the administration of these drugs by mouth. When the attacks are frequently repeated, he advises injections of 1–2 mgm. of morphia. The effects of water and starch diet are analysed, also the use of phosphorised oil and lime salts. The writer himself lays most importance on the observance of strict hygienic conditions and the administration of phosphorised cod-liver oil. When convulsions occur, the stomach and intestines should be emptied and sedatives given, narcotics being only necessary in serious or prolonged cases. The infant, moreover, should be removed from neuropathic family surroundings, and placed under a cure at the seaside or at some bromo-iodide spa.

VINCENT DICKINSON.

Case of lacerated wound of the thigh treated by eusol ('*Edin. Med. Journ.*,' 1916, I, *p.* 128).—**A Miles.**—A boy, aged 6 years, was knocked down by a car and sustained an extensive lacerated wound on the front and inner aspect of the right thigh. The quadriceps extensor, sartorius, and adductor muscles were torn across and their ends retracted, exposing the femoral vessels, which, however, were intact. The superficial tissues of the whole thigh were contused and the limb was considerably swollen. The edges of the torn skin on the outer edge of the wound were undermined for a distance of from two to three inches, and near the lower end was a smaller laceration through the undermined integument. The whole length of the inner edge was everted, exposing the subcutaneous fat on its deep aspect. There was in addition a lacerated wound in the perineum. Eusol was used to cleanse the parts and the wounds were dressed with gauze soaked in eusol. None of the bruised tissue was clipped away. The ends of the torn muscles were identified and sutured accurately with catgut. The result was most satisfactory. Granulations formed with more than usual rapidity, and the wound healed with a sound and pliable cicatrix. The functional result, in view of the extensive laceration of muscles was also good, and the boy can walk without a limp and has perfect use of all the muscles that were sutured.

J. ALLAN.

The scope of preventive work in connection with the medical treatment of infants and young children ('*Edin. Med. Journ.*,' 1917, I, *p.* 329).—**J. C. Johnston** shows that an efficient scheme of prevention must be directed at the definite diseases and conditions which combine to destroy life in the very young—syphilis, tuberculosis, and bad feeding—and whatever contributes to these three. Any adequate scheme of prevention should direct its aim: (1) To attack inanition, malnutrition, and marasmus at their source—that is to say, to investigate nutrition from the standpoint of the infant's earliest needs both in intra-uterine and extra-uterine life; (2) to seek out the sources of gastro-enteritis and diarrhœa; (3) to discover some means of protecting the infant and young child from tuberculous infection; and (4) to fortify the child against other and repeated infections of the respiratory tract as it begins to walk and onward. Emphasis is laid on the value of a dietetic clinic which should be the centre of preventive industry, linked with maternity worked on the one side, with dispensary and hospital treatment on the other. The dietetic clinic should be aided and abetted by a feeding ward equipped with milk laboratories, and it should also be in touch with generous provision for convalescence from acute disorders or chronic conditions. J. ALLAN.

The thermal springs and baths in France for the treatment of children ('*Journ. de Méd. de Paris,*' 1916, xxxv, *p.* 69).—**H. Rouèche.**—These baths are quite as useful for the treatment of children as they are for adults. The following are the indications: (1) Pulmonary affections. Sulphur waters are specially indicated as baths, inhalations, and drinks. Chloride waters are useful in chronic catarrh. (2) Local tuberculosis, scrofula, lymphatism. Sodium chloride waters are specially indicated. (3) Digestive disorders. Bicarbonate, sodium chloride, and calcium sulphate waters are useful. Atonic enteritis is benefited by the mixed bicarbonates and chlorides of magnesium. (4) Albuminuria derives benefit from bicarbonate and chloride waters. (5) Nervous diseases. Hot springs of a slight and mixed mineralisation or radio-active waters are useful. (6) Skin diseases are benefited by arsenical or sulphurous waters cold or hot. (7) Rheumatic affections are treated by hot waters; articular lesions by hot chloride waters or mud baths. (8) Heart diseases. Strong carbonic acid waters, hot springs, and radio-active waters give good results. The various hydropathic stations are: *Alet* (Aude). Bicarbonate and calcium waters hot or cold. Indications: Enteritis and gastro-enteritis, convalescence from infectious diseases. *Allevard* (Isère). Cold baths, calcium sulphate. Indications: After whooping-cough, measles, lymphatic gland enlargements, pleurisy, bronchitis, tracheitis, enlargement of tonsils, stomatitis, otitis, etc. *Amélie les Bains* (Pyrénées orientales). Sulphate of soda baths. Indications: Convalescence, anæmia, laryngeal affections. *Argelés-Gazost* (Hautes Pyrénées). Mixed sulphur waters. Indications: Respiratory diseases. *Aix-les-Thermes* (Ariège). Hot sulphur waters, nitrates, and silicates. Indications: Rheumatism, seborrhœa, nose, throat, and ear diseases. *Bagnoles-de-l'Orne* (Orne). Hot and cold iron waters. Indications: Chorea, myxœdema, rheumatism, etc. *Bagnoles-les-Bains* (Lozère). Calcium sulphate waters. Indications: Heart affections, enlarged glands, etc. *Barèges* (Hautes Pyrénées). Sodium and sulphate waters. Indications: Lymphatic enlargements, bone diseases, infantile paralysis. *Biarritz* (Basses Pyrénées). Chloride of sodium and bromo-iodide waters. Indications: Lymphatic enlargements, tubercular bone disease, rickets, infantile paralysis, etc. *Bourbon l'Archambault* (Allier). Sodium chloride and iodide and carbonate. Indications as the last. *Bourbon Laucy* (Saône et Loire). Sodium chloride, iodide, and bicarbonate; iodide waters and arsenical waters. Indications: Heart diseases except pericarditis. *Bourbonne les Bains* (Haute Marne). Chloride of sodium. Indications: Lymphatism, scrofula, rickets, and bony lesions. *La Bourboule* (Puy de dôme). Hot, arsenical, chloride, and bicarbonate waters strongly radio-active. Indications: Neurasthenia, enlarged glands, suspected tubercle, asthma, and some skin diseases. *Bursang* (Vosges). Arsenical, iron, and bicarbonate waters. Indications: Chlorosis, debility, lymphatism. *Cambo* (Basses Pyrénées). Sulphur and iron waters. Indications: Pharyngitis, bronchitis, anæmia, etc. *Eaux Chaudes* (Basses Pyrénées). Hot, sulphurated waters, with soda, lime, and silica. Indications: Laryngeal affections and debilitated children. *Evian* (Haute Savoie). Bicarbonates. Indications: Arthritis, dyspepsia, chronic diarrhœa. *Forges les Eaux* (Seine Inférieure). Cold, ferruginous waters. Indications: Anæmia and lymphatism. *Luchon* (Haute Garonne). Hot, sulphated soda waters. Indications: Chronic respiratory affections. *Mont Dore* (Puy de Dôme). Hot, bicarbonate, ferruginous, and arsenical waters. Indications: Respiratory and nasal diseases, asthma, pulmonary tuberculosis, etc. *Plombières-les-Bains* (Vosges). Hot, radio-active, arsenical, and soda waters. Indications:

Enterocolitis, constipation, chorea, and affections of the respiratory passages. *Royat* (Puy de Dôme). Alkaline, bicarbonate, arsenical, ferruginous waters. Indications: Arthritis, anæmia, cardiopathy, etc. *Saint Galmier* (Loire). Bicarbonate of lime and soda, gaseous waters, useful in early tuberculosis. *Vichy* (Allier). Strong bicarbonate of soda waters, hot and cold. Indications: Gastroenteritis, arthritis, obesity, etc. *Vittel* (Vosges). Sulphated and carbonated lime, soda, and magnesia. Indications: Urinary troubles, uric acid, etc.; biliary troubles, digestive disorders, migraine, etc. I have only given the chief balneological stations out of a long list, choosing those best known in this country. J. Porter Parkinson.

Correspondence.

To the Editor of The British Journal of Children's Diseases.

WAR EMERGENCY FUND OF THE ROYAL MEDICAL BENEVOLENT FUND.

Sir,—The time has come to make a further appeal for the War Emergency Fund.

This Fund was instituted last year to afford assistance to members of our profession who, in consequence of having joined the Army Medical Service, find themselves in temporary difficulties.

Many medical men, when called up, had to leave on very short notice, without time to make adequate provision for the continuance and maintenance of their practices during their absence. As a result they have had to face a severe fall in income even when supplemented by Army pay; while many expenses, such as rent, insurance, taxes, family maintenance, and education, could not be reduced. Although in a year or two after their return it may be hoped those affected will recover their position, still in the interval help is, and will be, necessary, and it is to meet these needs that the War Emergency Fund was established.

To be effective the grants must be made on a liberal scale, and the fund from which they are to be drawn must be a large one. The sum obtained last year was about £4000. This is quite inadequate, as at least £25,000 will be required, if even a small proportion of those requiring assistance is to be helped. From the wealthier members of the medical profession, it is hoped, substantial sums will be received, but everyone should feel it a duty which he owes to his less prosperous colleagues to give the most liberal donation he can afford.

At the same time the appeal is not, and ought not to be, restricted to the medical profession. The public, too, may be rightly called upon to bear its share, and to show, by liberal contributions, its appreciation of the special services so freely rendered by the medical profession to the country.

The War Emergency Fund is a special department of the Royal Medical Benevolent Fund. It is kept separate and distinct from the ordinary operations of the general fund, and is under the management of a committee specially appointed for the purpose.

Communications should be addressed to the Honorary Secretary, War Emergency Fund, 11, Chandos Street, Cavendish Square, W. 1, to whom cheques should be made payable. We are, etc.,

SAMUEL WEST, *President.*
CHARTERS J. SYMONDS, Colonel, A.M.S., *Hon. Treasurer.*
G. NEWTON PITT, Major, R.A.M.C.T., *Hon. Secretary.*

LONDON, W. 1;
June 8th.

Cases of Special Distress caused by the War which the Committee have helped.

A lieutenant in the R.A.M.C., who had only been in practice a few years, volunteered for service, and was killed in action a few days later. He left a widow, with two children, aged 3½ and 1 year, without means except the War Office pension. The fund voted £25 for her immediate necessities, and the Officers' Families Fund gave further help.

A captain in the Territorials was called out, and had to leave his practice in the hands of a *locum,* who proved a failure. There were seven children, aged 2 to 14 years. Financial difficulties arose, and payment of the school fees became impossible. Between the Fund and Guild, and the Officers' Families Fund, the necessary fees were raised, and sorely needed clothing provided.

A captain in the Territorials, who was called out when the Army mobilised, and had to leave his practice worth £800 at a day's notice, could not pay the fees for his son's education, who was in his last year at school. The Fund, the Guild, and the Professional Classes War Relief Council together raised the necessary money.

A captain in the Territorials was killed in action, and left a widow, and two children, aged 3 and 4½ years. The Fund investigated the case, and referred it to the Officers' Families Fund, who gave her a grant to meet her immediate necessities. The Fund also obtained work for the widow, a trained nurse, who was thus enabled to earn her own living.

A major, R.A.M.C., Territorial, was called out at the beginning of the war and was abroad for over two years. He was invalided to England and put on home service. His practice was completely lost by his absence. There are three children, one in the Navy, one in the Army, and one at school. He had to give up his house, as he was in difficulties with rent, taxes, and education. The Fund gave £50, and further help was obtained from other sources.

A captain in the R.A.M.C.(T.), with a wife and six children, found the income derived from his practice, left in charge of a *locum,* and the balance of his Army pay insufficient to meet his expenses. He obtained assistance from the Civil Liabilities Committee and the Officers' Families Fund, and a grant was made from the War Emergency Fund towards the education of the children.

A practitioner, earning £700 to £800, volunteered for service, leaving his practice in the hands of a neighbour, who was not a success. There were two children, aged 7 and 10 years, and another baby was born shortly after the husband left. The wife contracted pneumonia and nearly died. A resident patient had to leave the house. Rent and other expenses led to a debt of about £80. This the doctor could not meet, and he hurried back from the trenches to save his home from being sold up. The Fund voted £25, the Guild gave £15, the Officers' Families Fund £25, and the Professional

Classes War Relief Council offered further help, with the result that he returned to the Front with his immediate anxieties relieved.

SIR,—We beg to support the urgent letter of appeal to this Fund which appeared in the last week's medical journals.

This Fund was instituted by the Royal Medical Benevolent Fund last year to afford assistance to members of the profession who, in consequence of having joined the Army Medical Service, find themselves in temporary difficulties.

We very strongly commend the claims of this Fund to the generous support of both the profession and the public.—We are, etc.,

FREDERICK TAYLOR
(President, Royal College of Physicians)
W. WATSON CHEYNE
(President, Royal College of Surgeons).
W. H. NORMAN, Surgeon-General, R.N.
(Director-General of the Medical Department of the Navy).
ALFRED H. KEOGH
(Director-General, Army Medical Service).
WILLIAM OSLER
(Regius Professor of Medicine, University of Oxford).
T. CLIFFORD ALLBUTT
(Regius Professor of Physic, University of Cambridge).
JOHN TWEEDY
(Past President, Royal Medical Benevolent Fund).

11, CHANDOS STREET,
CAVENDISH SQUARE, W. 1;
June 16*th*.

Reviews.

THREE LECTURES ON THE TREATMENT OF DIABETES MELLITUS BY ALIMENTARY REST (THE ALLEN TREATMENT). By O. LEYTON, M.D., D.Sc., F.R.C.P., Physician to the London Hospital. Pp. 64. 1 fig. London: Adlard & Son & West Newman, Ltd. 1917. Price 3s.

THESE lectures, reprinted from the 'Clinical Journal,' are attractively written, and contain in the convenient form of tables the practical details of the diet and treatment. The value of the Allen treatment thus carried out at the London Hospital is shown by the following figures: in 1913, when the old treatment was in vogue, out of 66 cases of diabetes admitted to the hospital, 1 only left the hospital without glycosuria, whereas in 1916 out of 39 cases treated by the new method 29 were discharged sugar-free and upon a diet in the region of 2000 calories. The comment of a patient who when under the old-fashioned diet had steadily lost weight, and when, owing to his medical adviser's decease, came under the Allen *régime* and gained 7 lb. in six weeks, is a graphic, if rather grim, testimonial: "My doctor died; if he hadn't, I should." Dr. Leyton throws out a vigorous caution against any so-called modified Allen treatment which possesses most of the disadvantages and none of the advantages of the original method.

The treatment should either be carried out in its entirety or not attempted, and to associate the name of Allen with a treatment which does not lead to the disappearance of sugar from the urine is to malign Allen. The Allen treatment should not be adopted in cases of diabetes complicated with tuberculosis, and it may be difficult to decide if this additional factor is present; while admitting that the expediency of using a tuberculin test must be left to the individual physician, Dr. Leyton warns the reader that "anyone who lights up quiescent tuberculosis in a diabetic may be guilty of manslaughter." These shrewd, practical, and concise lectures will be of value to those who require guidance in carrying out this modern treatment of diabetes. H. D. R.

WAR-SHOCK: THE PSYCHO-NEUROSES IN WAR PSYCHOLOGY AND TREATMENT. By M. D. EDER, B.Sc.Lond., M.R.C.S., L.R.C.P.Lond., late Temporary Captain, R.A.M.C., and Medical Officer in Charge of Psycho-Neurological Department, Malta. London: W. Heinemann. 1917. Pp. 154 + vii. Price 5s. net.

WHAT Mr. Eder means by war-shock is a psycho-neurosis produced by stress of external conditions acting on a mind more sensitive than the normal person's. In this book a series of 100 such cases is analysed with the object of giving an insight into the mental processes at work in these affections, and consequently of providing a sound basis for their adequate treatment. The author finds that functional diseases are rare among the wounded, but hysteria and psychasthenia occur as the result of psychical stimulus among men who are free from hereditary or personal psycho-neurotic antecedents but possessive of minds more responsive than the normal. It is thus the psychic, and not the physical trauma, that is the chief factor in the production of war-shock, and this is even more important than predisposition.

In his writing the author shows an adherence to the teaching of Freud, Jung, and others, a school the methods and conclusions of which do not find favour with many persons. Nevertheless it must be admitted that from the evidence here set forth the results obtained in a number of cases of psycho-neurosis caused by the war were highly satisfactory. Hypnotic suggestion is the treatment advocated, the suggestion by preference being directed to the complex as determined from the psychological examination and general psycho-analytical conclusions. By this means over 90 per cent. of the cases were cured, and a further 8·5 per cent. improved. Cure is said to be very rapidly effected, most cases recovering in less than two weeks, and some in a few minutes or hours. The importance of such a rapid restoration to a normal state of mind is evident from the author's statement that the majority of war-shock cases, so cured, can return to the Front in three to six months.

Mr. Eder is an earnest believer in the methods which he advocates, and his treatise will doubtless appeal to those who are interested in this branch of psychology.

The book shows signs of hurry in production. The descriptions of vision on p. 32 are carelessly printed and partly unintelligible; the names of Mackenzie and Graves are repeatedly misspelled; and the numbers of pages to which reference is made are here and there omitted.

We do not quite understand what the author implies by "the vegetative nervous system" nor what he means by the word "aguisia." T. R. W.

TRANSACTIONS OF THE AMERICAN PEDIATRIC SOCIETY. Twenty-eighth Session, 1916. Vol. xxviii. Edited by L. E. LA FÉTRA, M.D.

THIS volume contains thirty-five papers by various authors, and fully maintains the interest of its predecessors. Dr. R. M. Smith writes on the "Pyelitis of Infancy," and maintains that this is always a blood-infection, chiefly from the gastro-intestinal tract. Drs. J. Howland and W. McK. Marriott contribute a paper on the "Calcium Content of the Blood in Rachitis and Tetany." As a result of their investigations they find that "tetany differs from rickets in that there is a marked reduction in the calcium of the circulating blood." Dr. I. A. Abt deals with the "Familial Icterus of New-born Infants." The Schick test is the subject of articles by Dr. D. M. Cowie and Drs. H. L. K. Shaw and W. E. Youland, and "Meningitis in the New-born and in Infants under Three Months of Age" that of an interesting paper by Dr. H. Koplik. The final Report of the Commission on "Vaginitis in Children" occupies thirty pages, and the same disease is dealt with by Dr. B. K. Rachford and Dr. A. F. Hess. Reports of some interesting cases are also contributed by other writers. T. R. W.

SOME MEDICAL ASPECTS OF MATERNITY AND CHILD WELFARE. Reprinted from the 'Edinburgh Medical Journal,' May–June 1917.

HERE we have a symposium upon the medical aspects of maternity and child welfare, comprising papers read at a series of meetings of the Edinburgh Pathological Society, and introducing discussions on the various subjects. In all some seventeen aspects of the question are considered in papers which have a very high value. It is true that it cannot be claimed for any one of the articles that it presents matter which is novel or original, but together they form an admirable *résumé* of the beliefs upon which maternity and infant welfare work is based, of the ideals which inspire it, and of the practical measures which have been, or which should be adopted.

At the present time when the interest of the public is being awakened to the importance of the movement by an active propaganda, the publication of these papers is especially to be welcomed. When we reflect that from a hundred platforms the gospel is preached by enthusiastic missionaries—themselves often converts of a recent date—it is not surprising that misleading statements should at times obtain sanction from authorities and organisations which ought to know better. When there is added the wish to simplify for the understanding of the public a subject essentially complex, it is perhaps only to be expected that the propaganda of the movement should contain many statements of doubtful truth, and some which are demonstrably untrue. For this reason we feel sure that the Council of the Royal College of Physicians of Edinburgh has acted wisely in circulating this series of papers among the members of the medical profession in Edinburgh.

The foreword by Dr. Lorrain Smith sets an example of scrupulous accuracy and careful statement from which the authors of the succeeding papers only very rarely allow their enthusiasm for their subject to carry them: "The families of all classes suffer the illnesses of childhood, but these illnesses generally leave the well-cared-for child unscathed. On the other hand, to the child who is ill-nourished the incident of such simple diseases as measles or whooping cough too often brings more or less permanent damage, if not death itself. The difference between the two types of cases need not exist." The purpose of the movement for infant welfare could not be better expressed, though Dr. Lorrain Smith in choosing his examples might have descended in the scale of severity of disease still further. Among the faulty children of the poor a simple catarrhal infection such as would cause scarcely a day's inconvenience to the healthy child of good tissue and high resistance, may be productive of a serious or even fatal illness.

The Report of the Special Committee on Maternity and Child Welfare has some fine phrases to enliven it: "The agencies at work should be essentially advisory and helpful rather than minatory and coercive." Dr. Thomson in his article puts it better: "The best and easiest way to win the mothers is to earn their gratitude by being good to the children." The statement found in the Report that ophthalmia neonatorum is a prolific cause of blindness, hardly tallies with the figures given later by Dr. Paterson and Dr. Traquair who report only two cases of the disease notified in Leith during the last year, and only sixty-one cases notified in the whole of Edinburgh in the four years since the establishment of compulsory notification.

Many of the papers lay stress upon the great frequency of tuberculosis, and especially of bovine tuberculosis in Edinburgh. The Report quoted above says that 90 per cent. of tuberculous cervical glands were due to infection by a bacillus of bovine type. A still more remarkable statement is that of Dr. Fraser, who quotes Dr. Turner to the effect that 50 per cent. of cases of suppurative otitis media in children under one year are due to tuberculosis, and that the prognosis in these cases is very bad. The frequency of simple acute otitis media is so great in the first year of life that we find it difficult to credit this statement.

We like least the paper by Mr. J. H. Gibbs upon the "Prevention of Dental Disease." Not a few of his statements seem to contain exaggerations which even a good cause cannot excuse. After examining the nature of the diet commonly taken by children in this country, he expresses himself as follows: "It has already been said at these meetings that the commonest ailment of infants is indigestion. Considering that the doctor has given the mother detailed instructions for producing dyspepsia and ill-health in her child, which may handicap him throughout life, we should marvel, not that indigestion is so rife, but that the child is alive at all." He speaks slightingly of statements by Dr. Woods Hutchinson, and Dr. W. Leslie Mackenzie, who maintain that the need of the child for sugar is so great that to remove it entirely from his dietary would do more harm than good—a statement with which we heartily agree. Mr. Gibbs is of opinion that dental caries "could be almost completely abolished simply by discarding a few recently introduced luxuries in the shape of sweets, and by so arranging our meals that none of them shall end with soft, sticky, sugary foods." He advises that children from fifteen months "should have sufficient salt, vinegar, mint sauce or other sauce or pickles to flavour their meat or gravy," in order to encourage the secretion of a saliva of high alkalinity. There is much that is true in Mr. Gibbs' contentions, but his outlook must seem narrow to those who are familiar with the diseases of infancy and childhood. The texture of the teeth, and indeed of all the epithelial structures, suffers profoundly under the prolonged action of faults of hygiene and repeated infections of the body. Dry, thin hair and irregular faulty teeth alike owe their defects to the feeble nutrition of the whole body.

H. C. C.

THE
BRITISH JOURNAL
OF
CHILDREN'S DISEASES.

VOL. XIV. OCTOBER—DECEMBER, 1917. Nos. 166–168.

Original Articles.

TEN YEARS' EXPERIENCE OF RINGWORM IN PUBLIC ELEMENTARY SCHOOLS.

By JOHN PRIESTLEY,
Senior School Medical Inspector, Staffordshire.

I WELL remember the consternation with which the advent of ringworm used to be received, and the meticulous care with which cases were examined before they were sent back to school. After ten years' closer study of ringworm in the mass one's impression is that so much anxiety was hardly justified. In those days one knew very little of the numerous brief and almost negligible cases which come and go and leave no trace behind.

As it is possible there may be some difference in virulence of ringworm in different localities, it should at the outset be stated that the writer's experience is based on a county area containing over 80,000 school children, scattered some in purely rural and others in countrified mining and manufacturing urban areas, but containing no large cities or towns.

As to prevalence in different parts of the country, apart from virulence, it is not easy to obtain comparable figures, owing to slightly different methods of collecting statistics, but there is reason to think that the numbers in town and country and in different distant areas do not vary very greatly.

Ringworm should be thought of in connection with impetigo contagiosa, which it resembles in several essential particulars. The numbers of both diseases found in our Staffordshire schools on the day of inspection are not very dissimilar; the incidence according to age of each disease is much the same; they are about equally infective; both are endemic in the county, and appear as a rule in the form of single cases or little groups. Occasionally, however, in both cases, but only as a rare occurrence and under conditions not as yet clearly understood, the disease may become sharply epidemic in particular schools, though not, so far as I have observed, in areas or divisions of the county. The epidemics of both cease, as a rule, as suddenly as they arise, and one is often tempted to wonder whether the cessation can fairly be credited to the measures adopted. It may be added that when ringworm is on the open or relatively hairless skin it is as easily arrested as impetigo.

Number of cases occurring.—As medical inspection has enabled us to attempt a census of diseases of school children, we can say in what proportions diseases are present on the day of inspection. But these are not necessarily the proportions in which the diseases actually occur in children of school age, for the child may be kept at home by the disease and so escape enumeration. To this extent the statistics may mislead. The error thus caused is less in the case of ringworm than might be supposed, for it has been customary for teachers to bring up their excluded cases at inspection. Still, the percentages are no doubt somewhat of an under-statement.

To illustrate the percentage of the cases of ringworm discoverable on the day of inspection, a series of four years—1909–12—may be taken in which similar, or substantially homogeneous, groups of unselected children were inspected each year. This similarity in the groups compared is most important, for the prevalence of ringworm varies according to the age-period. During the years selected about 20,000 children were inspected each year as routine cases, of whom approximately 8000 were aged 5–6, 8000 were 8–9, and 4000 were 12–14. The percentages of cases of ringworm of the head presented each year were as follows:

1909	0·45 per cent.
1910	0·5 „
1911	0·5 „
1912	0·6 „

On an average during these years, therefore, about 5 children out of every 1000 examined were found on the day of inspection to have ringworm of the scalp.

This figure is not, of course, the same as the number of cases annually occurring. The latter we can infer if we know the average duration of cases, and the average duration for Staffordshire children, as will later appear, is about nine months. In order to maintain a steady proportion of 5 cases per 1000 on the day of inspection when the cases have an average duration of nine months there must be 6·6 cases per 1000 occurring annually. The average annual number on the rolls during the four years was about 83,500, therefore theoretically there should have been about 551 cases per annum to account for the numbers actually seen on the day of inspection.

It was not until 1911 that we organised a system of reporting all ringworm cases as they arise. Head teachers notify us of every suspicious case, and as soon as convenient afterwards a medical inspector calls to verify it. Although teachers may not always detect cases in their early stage, there is no reason to suppose that many cases entirely escape them. In 1912 the number of head cases reported and verified was 587, in 1913 it was 619, in 1914 it was 535—numbers which sufficiently well agree with the theoretical calculation.

It cannot be said, therefore, that head ringworm is a very extensive trouble in school life. The numbers found on the day of inspection are about equal to the cases of declared tuberculosis of all kinds similarly found, and are about half the number of the cases of running ears. The numbers are *only one-fiftieth* of the cases of verminous heads.

In addition to head cases of ringworm, we have generally had face and body cases reported to the extent of about half the number of the head cases.

The percentage of cases of impetigo (head and face) found on the day of inspection during the same four years is given in the following table:

1909	1·15 per cent.
1910	0·9 ,,
1911	0·8 ,,
1912	0·7 ,,

The average number of cases, therefore, is about 8 per 1000 children. We do not know the average duration of impetigo cases, and we have not yet attempted to get daily reports of cases as they arise.

Incidence according to age.—It used to be taught that ringworm had no tendency to spontaneous recovery,[*] but the following table suggests the opposite, as does also the fact that the common variety of ringworm in British schools (microsporon) is practically unknown after puberty.

---

[*] Emmett Holt, 'Diseases of Infancy and Childhood,' London: Sidney Appleton 1907, p. 941.

Scalp Ringworm. Incidence at Different Ages.

(Boys and girls in about equal proportions each year.)

	1908.	1909.	1910.	1911.	1912.	1913.	1914.
	%	%	%	%	%	%	%
Children of 5– 6 . .	0·8	0·65	0·8	0·78	1·0	0·7	0·77
,, 8– 9 . .	—	0·4	0·3	0·49	0·45	—	—
,, 12–14 . .	—	0 07	0·06	0 22	0·15	0·35	0·24

Thus ringworm appears to be mainly a disease of young school life, and the liability to it declines rapidly with age.

That the same may be said of impetigo is shown by the following table :

Impetigo of Head and Face. Incidence at Different Ages.

(Boys and girls in about equal proportions each year.)

	1908.	1909.	1910.	1911.	1912.	1913.	1914.
	%	%	%	%	%	%	%
Children of 5– 6 . .	1·8	1·5	1·2	1·0	0·95	1·4	1·6
,, 8– 9 . .	—	1·0	0·8	0·75	0·7	—	—
,, 12–14 . .	—	0·7	0·6	0·35	0·2	0·37	0·37

Incidence according to sex.—During the years dealt with in the above tables, 55,849 boys were submitted to routine inspection and 55,271 girls. Of the boys, 332, or 0·59 per cent., had scalp ringworm, but only 248, or 0·44 per cent., of the girls. Thus there is evidence of some influence of sex. It may in part be due to more of the slight cases escaping discovery in the case of the girls owing to their long hair, or it may be that the long and plaited hair of girls is some defence against ringworm. Be that as it may, it seems clear that girls are somewhat less liable to the disease than boys, for out of 778 cases of ringworm which were followed up, and which are referred to on a later page, 461 were boys and 317 girls, though no selection had been exercised.

Impetigo of the head and face shows no such sex difference. The boys had 0·99 per cent. of cases and the girls 0·98 per cent.

Low infectivity.—Ringworm, like impetigo, is a disease of low infectivity. Very close contact seems necessary for spreading it. It is not so much among children sitting in the same class as among children living in the same house or street that the cases are found.

Infectivity can only be relatively tested, and a rough method is to compare the number of cases found at inspection with the total numbers of children of the same age period in the schools, and, therefore, attending the same classes, and generally rubbing shoulders. On one occasion, when the test was applied to pediculosis, it appeared that 29 out of every 100 children thus known to have been exposed to infection were, in fact, infected. This may pass for a relatively high degree of infectiousness. On the other hand, in the case of ringworm the percentage was only 5·5, and in the case of impetigo it was 6·2 per cent.

A low infectivity for ringworm may be inferred from another line of argument. If the complaint were very infectious and difficult to get rid of, it seems probable that a considerable proportion of the schools found infected on the day of inspection one year would be identical with schools found infected the year before. Especially would this be the case in infant schools, for every year fresh supplies of childen at the most susceptible age are being "fed" to the infected schools. But it is notso. In 1908, 54 of our infant schools were found at inspection to have ringworm, and in 1909, 61 infant schools had it, but, so far from the schools being largely the same, there were only 16 schools common to the two years. Even if we suppose that these 16 schools had all derived their cases directly from the cases in the same schools in 1908—which, in fact, there was no reason to suppose—it would still have to be admitted that for every school where ringworm managed to persist into the second year there were two or three where it died down. The results for 1910, as compared with 1909, were similar.

It must not be supposed that this favourable result was due to any bold administrative handling of the outbreaks. We had not then grappled with the problem of ringworm as closely as we subsequently did. The matter still largely rested in the hands of head teachers, as it had done from time immemorial before the advent of medical inspection. The worst cases were no doubt excluded, but slighter cases were ignored, both from lack of observation and because many teachers shared the indifference of parents to the ailment. Finally, it had to be left to the head teacher to decide when to re-admit the cases. The dying down of outbreaks in those early days could only mean that infectiousness was slight.

Low epidemicity.—Roughly speaking, ringworm is always to be found in about half the number of our schools, but in a very large majority of schools it occurs as single cases or in groups of two or three. Epidemics are comparatively rare. The following table shows the average annual distribution of cases during the three years 1912–14. It must be remembered that a single case of ringworm, whether a transient face or body case or a scalp case, if reported from a school sufficed to stamp that school as having had ringworm in the year in question.

Number of Schools affected with Ringworm, and Cases per School per Annum.

(Average of three years, 1912–14.)

Total number of schools in area.	Number of schools having ringworm.	Number of schools having the following number of cases during the year.				
		1–4 cases.	5–9 cases.	10–14 cases.	15–19 cases.	20 and more cases.
375	165	110	32	11	7	5

It is sometimes a little difficult to say whether a particular series of cases should be called an "epidemic" or looked on as a number of independent "sporadic" cases, but it may be accepted that out of the 165 schools with ringworm only 12 on an average of the three years could be considered to have it in epidemic form.

Unfortunately, we have no data for estimating the epidemicity of impetigo. It is generally found in single cases or small groups, but now and again spreads through a school. This occurs, I think, even less often than is the case with ringworm.

Treatment.—The treatment of ringworm has entered on a new phase since the application of X rays. The fungus and spores of ringworm are not really difficult to kill if only one can get at them, but they bury themselves in the deep hair follicles. Epilation has long been known as a useful aid to germicide lotions and ointments, and the X rays offer a convenient mode of epilation. Practically it may now be said that we have the means of completely controlling the disease in the individual child.

But the method has its drawbacks; it takes about two months, there is the temporary baldness, and occasionally permanent baldness has followed, and, moreover, on theoretical grounds damage to the delicate brain-cells has been feared. Without exaggerating these drawbacks there remains the difficulty, more particularly for county education authorities, that the method is somewhat costly both to the authority, and, in time and railway fares, to the parents.

On the other hand, ringworm by itself never killed a child, and never, it might almost be said, apart from treatment caused an hour's suffering; and, as has already been pointed out, it probably invariably disappears before puberty. If, to these considerations we add the conviction of its low infectivity—so low, in fact, that with certain simple precautions we need not exclude children from school—and the conviction of its slight epidemicity, we may well ask, Why trouble about X rays? Or, rather, why not reserve them for the 5 to 10 per cent. of excessively protracted cases?

It will help us to a decision if we know the duration of casually-treated cases, and with this object the following table has been prepared. It deals with 778 cases, most of whom have been attending school all the time. The great majority had been "domestically" treated. Most mothers "know of something for ringworm." Ink, tobacco ash and water, "blue stone" and washing soda are vaunted; white precipitate ointment, sulphur ointment, Jeyes' fluid, and "what we use for the calves" are all popularly known and used. Very few of the cases, if any, have been persistently treated from first to last by a doctor; in more cases the mother may have seen a doctor once to get an ointment. Some of the cases had literally no treatment whatever except, perhaps—when not forgotten—the dab of oil or simple antiseptic ointment to keep hairs from flying about, which we prescribe in our regulations. Of course, no X-ray treated case has been included.

Many of the drugs used are by no means valueless so far as they go, but it may be accepted that the mode of application is generally casual in the extreme and wholly inadequate according to a skin hospital standard. It is just what might be expected from busy mothers imperfectly convinced of the need of treatment.

A word must be said about the nature of the data. Suspicious cases are notified by the teachers and verified by the medical inspectors as soon as convenient. When a case seems to be over, the teacher again reports, stating specifically (1) whether there is any look of scurfiness and (2) whether the hair is growing fully and freely on the spot. We rather encourage our teachers not to report so long as they can see where the ringworm has been, but this is a counsel of perfection. As soon as may be after the report of the end of a case the medical inspector again calls to verify, and thus in normal circumstances the beginning and the end are certified by a medical observer. But when staffs became depleted owing to the war verification was not always practicable, and we had to rely on the statements of teachers, checked only when the report seemed in some way dubious.

Thus there are two groups of cases in the total, the completely verified (254) and the unverified either as to beginning or ending or both (524). These two groups were first analysed separately, but when it was found that there was no essential difference between them either as to the average duration of cases or as to maxima and minima they were recombined and dealt with together.

Of the cases, 461 were boys and 317 girls.

Table showing Duration from Date of Discovery of 778 *Casually Treated Cases of Scalp Ringworm.*

Duration after discovery.	Number of cases which had terminated.	Percentage of cases which had terminated.
Over within three months	163	20·9
,, six months	375	48·2
,, nine months	517	66·4
,, twelve months	611	78·5
,, fifteen months	665	85·4
,, eighteen months	699	89·8
,, twenty-one months	721	92·6
,, twenty-four months	741	95·2
Over during third year	27	4·8
,, fourth year	7	
,, fifth year	3	

The average duration of cases from the date of discovery was nine months; the minimum was within one month, the maximum fifty-eight months, or just within five years. Nearly half the number of cases were over within six months, nearly 80 per cent within twelve months, but it was not until the end of two years that 95 per cent. of the cases had been accounted for.

The second quarter (fourth, fifth, and sixth months) saw the end of more cases than any other three-monthly period, viz. 27·2 per cent.

The duration of cases seemed to have very little direct relation to the vigour or completeness of treatment. Many which got well quickly were neglected or were being very casually treated, whereas the longest case the writer ever had personal experience of was that of the child of a servant, who was treated assiduously under his own supervision for three years. The case in the end rather suddenly got well while under a course of iodine treatment, which at an earlier stage had been tried for many months to no purpose, and which had been resumed in the third year in despair of any new drug to try. This was many years ago, and before the days of X rays.

After what has been said about the decline of susceptibility with years, it is interesting to notice that the age of the child at the onset did not appear to influence duration in any regular or marked way. There were long cases and short cases at all ages.

Administrative measures.—Those adopted in Staffordshire are implicit in what has preceded. Head teachers at once notify suspected cases and the medical inspector proceeds to verify. Generally this is done at the next regular inspection, which may be several weeks ahead. Meanwhile the teacher is directed to treat the case as though it were ringworm, and to suggest that the parents should see a doctor ; he also asks permission of the parent for the wearing of a washable cap or bonnet. If the parent declines to see a doctor the teacher suggests that the hair be cut short about the spots affected, and some simple application, like carbolised oil, be applied daily to prevent hairs flying about. If these precautions are refused or grossly neglected the teacher is expected to suspend the child from attendance, but for reasons already hinted, depending on the general indifference of country people to the disease, there is often considerable leniency.

The caps are of good blue cotton material and shaped like polo caps ; the bonnets are pink or grey, and are shaped like sun bonnets. They are made in quantities for us at the sewing classes. When in use they are washed and boiled twice weekly under the direction of the education authority.

If reports of cases come in quick succession from a school, indicating an epidemic, the inspector visits at once and investigates. Any action deemed necessary may be taken, even to closing the school, but this is extremely rarely done.

When a case of ringworm appears to be over, the teacher reports as to scurfiness and as to the hair growing freely. If the report is quite clearly satisfactory on these two points the order is given to discard the cap. If there is still room for some doubt the decision is postponed for two or three weeks, or till the next regular visit of inspection. Naturally we always play for safety.

This method of dealing with ringworm in schools was started in 1911, and there has been no change for the worse in the number of cases occurring. But I am under no illusions as to the value of the precautions. If we were not dealing with an essentially benign disease, our precautions, like the casual treatment which is all that nine-tenths of the cases ever get, would, I think, be of little avail.

MENTAL DEFICIENCY AND THE BINET-SIMON TESTS.

By John Priestley,

Senior School Medical Inspector, Staffordshire.

Tests for mental deficiency are much in the thoughts of school medical officers at the present time, more particularly in regard to the administration of the Mental Deficiency Act, 1913.

The definitions of the Act merit the closest study, for their practical spirit must of course be loyally accepted and must be our inspiration in all administrative action.

It is suprising how entirely the definitions fall within the province of observant common sense and how completely dissociated they are from technicalities. An idiot is stated to be one who cannot guard himself from common physical dangers—he is liable to fall into the fire, or under the horses' feet. An imbecile is not so bad as this, but he cannot manage himself, he cannot be trusted to go to school alone, or to make a purchase by himself, he is apt to lose his things, or to be imposed on, etc. A moral imbecile goes on committing crimes of a more or less serious nature—pilfering, being cruel or grossly inconsiderate or indecent—in spite of repeated punishments. Evidently any intelligent nurse or mother or school teacher could make the diagnosis as well as a doctor. There is nothing at all about high palates, or epicanthic folds, or ill-set ears; nothing about the storage of motor ideas, or the success of motor output.

The definition of the feeble-minded, which at least might have been thought to implicate the specialist, is in reality just as "common sense" as the others, but there are two strands of thought in it which unless kept absolutely distinct will lead to dire confusion. First of all there is the idea of the child so mentally defective, *i. e.,* so mentally unlike the ordinary child that it needs care, supervision, and control for its own protection or for the protection of others. Here, again, there is nothing recondite, common sense is all that is wanted to establish the facts—common sense and sufficient time for observation.

Secondly, there is the other train of thought, the idea of the child who, by reason of its defectiveness, appears to be permanently incapable of receiving proper benefit from instruction in ordinary schools—*appears* to be *permanently* incapable of instruction—an intelligent and experienced teacher who has had the child a couple of years in his school will be able to give an opinion on that which will hardly be bettered by any doctor.

Nowhere in the Act is mental defect as such defined, but it is of course assumed and, indeed, it is stated here and there that the cause of the various disabilities spoken of has to do with the "mind." It is also stated repeatedly that the cause, whatever it is, must have been operative, *i. e.* must have been showing its effects, from birth or early age.

I do not mean that there is no room for the medical specialist in this matter of mental deficiency—very far from it. Only he can group and correlate the different types of cases; only the physiologically and psychologically trained mind is prepared for those flashes of integrating wit on which all progress in knowledge depends. But in essence the decision of mental defect is taken to be a purely common-sense affair and must be judged by criteria common to all sensible persons.

It is to be feared that the two separate, and even unrelated, ideas in the definition of feeble-mindedness, viz., the idea of needing protection and control and the idea of incapacity for ordinary instruction, will lead to a good deal of misunderstanding in practice. The idea of mental deficiency which is held vaguely by the generality of people and which on the whole predominates in the Act is undoubtedly the former. The mentally deficient child or person in this view is conceived of as irresponsible and as incorrigibly prone to act in anti-social ways, or if not himself anti-social at least as being capable of having offspring with anti-social tendencies. And the practical aim on which are focussed the efforts of reformers is to stop these anti-social actions in the present and prevent their transmission to future generations. I venture to think that no one in Parliament, and perhaps no one out of it, ever intended to mix up with the mentally defective who need control the congenitally word-blind child, who, by virtue of a defect of a limited part of his brain which leaves him otherwise perfectly sane, responsible and useful, is nevertheless permanently incapable of receiving proper benefit from the instruction in ordinary schools. And yet there are the words of the Act for any stupidly logical person to boggle over. Of course a way out will be found in practice.

These reflections lead one to the consideration of the Binet-Simon tests as a means of judging mental deficiency, a task which we must approach in the above-described severely practical spirit. The notion of devising a series of questions for each year of age as a gauge of mentality—Binet and Simon give five questions for each year—was perhaps not very subtle, for schoolmasters in all ages have been doing much the same thing, but a great deal of thought has been bestowed on the questions in order to secure that they referred to universal experience and not to the experience of a special time or class. From age three to age ten the subject matter is skilfully restricted to non-scholastic things which European and American children, and, indeed, children of nearly every culture-stage or civilisation, could not but be familiar with. Such things are the child's self and the parts of its body, the main divisions of time, distinctions of weight and of length, simple counting, simple colours, simple manipulations, etc. At and after age twelve the questions are scholastic, and not more valuable for the purpose than ordinary school exercises; here practice and the "crammer" might make all the difference to the child's "mentality."

It was soon discovered that children refuse to be thus penned in. Some were able to answer not only all the questions proper to a given year, but also some questions of the years ahead. For them the plan was suggested of adding one year to their "mentality" if the child could answer five more questions from the years ahead. Why five? This artificiality strikes one as rather childish; it disheartens one.

As a means of grading mentality the tests have a value, especially as a rough-and-ready way of checking from a slightly different angle the opinion of the child's teacher. But I should never be disposed to press the Binet-Simon results against the considered judgment of an experienced teacher who had had the child under observation for some months.

The value of the tests as an aid in detecting mental deficiency is much more open to doubt. The tests certainly afford convenient standardised openings for conversation, during which one can observe the child's method of mental response, and the method of answering is generally a good deal more illuminating than the correctness or incorrectness of particular answers. So far they are useful, but as to considering every child defective who has a mentality three years behind its nominal age, that would be a highly dangerous rule, and is, I think, out of the question. I cannot recall a single case in which the Binet-Simon tests helped me to decide when I was in doubt before; the tests are ineffectual where they are not superfluous.

Binet and Simon are themselves ambiguous about the use of their tests in judging of mental defect. In one passage they say: "A retardation of three years indicates a child who should be regarded as a suspect," *i. e.* suspected of mental deficiency. This, of course, is obviously true. But in a later passage they go further. They are defining idiots, imbeciles, and feeble-minded; the idiot, they say, never learns to communicate with his kind by speech, owing not to deafness, etc., but solely to defective intelligence; the imbecile similarly fails to learn how to communicate with his kind by means of writing; while the feeble-minded child is "one who can communicate with his kind by speech or writing, but who shows a retardation of two or three years (according to the rules already indicated) in his school studies, this retardation not being due to insufficient or irregular attendance."* As a definite rule this must be regarded as quite inadmissible. It will be seen that the spirit of their definitions is altogether different from that of the definitions in our own Act.

As a result of experiments on normal children in Staffordshire schools, I have come to the conclusion that the attempt to sift children into yearly groups by means of any set of simple questions gives a false sense of precision, nor is a grouping by years really necessary for the purpose of estimating mental defect. The following set of questions has been constructed out of the Binet-Simon lists, and seems to serve all practical purposes. The child is put through the whole of this paper, and the inspector is then able to say that a child has a mentality of "about normal age three," or a mentality of "between three and six," or is "a poor nine," etc.

Even when the tests are thus simplified no school doctor should presume to use them for estimating mental defect who has not repeatedly practised them on normal children, and the results of the testing should invariably be compared with the head teacher's classification of the child according to school standards.

BINET-SIMON TESTS (1911).

Name..Age ....
School ....Date...................
(With Class or Standard.)

3 *Years.*

1. What is your name?
2. Show me your eyes, nose, etc.
3. What is this in the picture? (man, cat, etc.).
4. Say after me (two numbers).
5. Say after me (five logically connected words).

At this age few children can answer "Are you a boy or girl?" or name any but the most obvious and familiar objects as in question 3 (*e.g.* will not name knife, penny, key, etc.).

---

* Binet and Simon, 'Mentally Defective Children,' translated by W. B. Drummond London: Edward Arnold. Introduction dated July, 1914; Chap. III, pp. 38 and 78.

6 *Years.*

1. Which is the longer of these two strips of paper? (1½ in. and 2 in.); the heavier of these two bags? (6 grm. and 12 or 15 grm.). A child of five should do this.
2. Arrange these two bits of paper (square cut into two triangles) to look like that square (show a duplicate). A child of five should do this.
3. Copy this (a diamond with acute angles and side of 1½ in.). Use pen and ink. A child of five should be able to do a square in same fashion.
4. Count these pennies (thirteen pennies grouped but not superposed). A child of five will usually not count more than four or five pennies.
5. Is it morning or afternoon?
6. Tell me what a fork is? a table? etc. At the age of six the normal child defines familiar objects by their use.
7. Which is the prettier of these faces? (a normal outline face and a caricature; Binet and Simon have suitable outline pictures printed, and these are commonly used).

At this age few children can answer "Which is your right hand and which is your left?" or execute a command involving two or three stages, or name common colours, but at seven or eight years a child should do these things.

9 *Years.*

1. Pictures with missing parts (outline picture of person without arms, face without eyes, etc.). A child of eight should say what is missing.
2. What is the difference between wood and glass, paper and cardboard, etc.? A child of eight should answer this.
3. Say the days of the week, the months of the year, and tell me the date to-day. A child of eight should make a good attempt at this.
4. Should know the chief coins and be able to "play shop," giving varied change out of a shilling,
5. What is a fork, a table, a mamma, etc.? At the age of nine a normal child as a rule spontaneously defines not by use merely, but by structure and other features.
6. Simple "common sense" or "problem" questions. (Examples subjoined.)

12 *Years.*

1. "Absurdities" test; may be tried any time after age ten. (Examples subjoined.)
2. Make a sentence bringing in three words. This should take about one minute.
3. Say as many words as you can in three minutes. A child of twelve will often say as many as sixty.* The child's head should be covered with a cloth or the eyes bandaged.
4. What are charity, justice, kindness, or similar abstract words?
5. Restore order to disordered sentences. (Example subjoined.)

---

* One alert-minded boy of nine to ten once said over two hundred by connecting the words into a logical narrative, from which it may be inferred how difficult standardisation is in these matters.

Examples referred to above.

Simple "common sense" or "problem" questions:

What would you do if you felt sleepy?

If you found it was raining after you had started for school what would you do?

What would you do if you were to break something that did not belong to you?

Why should we judge a person by what he does rather than by what he says?

Etc.

"Absurdities" test:

(Begin by saying—I am going to tell you something with a catch in it—something quite silly—I want you to tell me what it is.)

I have three brothers, John, James, and myself.

John is taller than James, James is taller than Harry, Harry is taller than John.

I met a man walking along with his hands in his pockets twirling his cane.

A cyclist riding down a hill was thrown on to his head and killed. He was taken to the hospital, and the doctor after examining him said he would never recover.

An engine driver said the more waggons he had in his train when going up hill the faster he could go.

Disordered sentences:

bravely a defends dog good master his.

my have teacher I the correct asked exercise to.

home our early we country in left visit the to friends.

CERVICAL GLANDULAR ENLARGEMENT IN CHILDREN, AS EVIDENCE OF INFECTION.

By E. B. Gunson, M.D.Edin., M.R.C.P.Lond., Capt., R.A.M.C.

The present paper is based upon an investigation undertaken at the suggestion of Sir James Mackenzie, owing to the high incidence of slight enlargement of the tonsillar and other upper deep cervical glands in adolescents reporting, at the Heart Department of the London Hospital, with symptoms suggesting cardiac disease, but who presented no signs of such nor of disease in other systems, apart from the fauces.

The object of the work was to discover what bearing, if any, the glandular enlargement of these patients had upon the symptoms, or upon the signs observed and reported by the parents.

Summary of Literature.

A. *Anatomical and physiological.*—Lymphatic glands commonly occur in chains, the arrangement being in relays, in the line of the lymph stream (2).

The upper deep cervical chain of glands is divided by Stiles (1) into an "upper and lower portion, the former situated above the level of the anterior belly of the omohyoid muscle, and the latter below it." The upper anterior group contains several glands, one of which, situated just below the angle of the jaw, at the anterior border of the sterno-mastoid muscle is known as the tonsillar gland, and the lymphatics of the tonsil have been traced directly to it. The efferents of the deep cervical chain form, ultimately, two large vessels which unite with the efferent vessels of the subclavian glands to constitute the jugular trunk.

"The lymph fills the spaces between all the tissue elements, so that any tissue can be regarded as a sponge soaked in lymph. In no part of the body does the blood come in actual contact with the living cells of the tissues" (5).

Movement of lymph.—"The movement of lymph is brought about partly by the pressure at which it is secreted, to a large extent by the contraction of skeletal muscles. The lymphatics all have valves, and muscular exercise is the greatest factor in the circulation of lymph, which, therefore, flows in one direction only" (5).

B. *Clinical.*—Waugh (7) considers that chronic enlargement of lymphatic glands in children is due, in a large majority of cases, to septic tonsillar infection. Of 135 cases, those which did not have a radical gland operation (this was performed in 12 per cent.) or require abscesses opening, recovered without further specific treatment in from four to six months after operation on the primary focus of infection. The tonsils in all cases were dissected out.

Mathews (3), investigating the tonsils histologically, found in 8 cases of cervical adenitis that the tonsils were tuberculous in 5 cases. Fifty-seven tonsils of patients not clinically tuberculous showed no tuberculous lesion.

Judd (1) states that direct extension from the cervical region into the mediastinal glands is impossible, and that inflammations and neoplasms affecting the cervical lymphatics are local until they pass into the general circulation. In histological examination of the tonsils from 1000 cases, 2·3 per cent. had tuberculous lesions.

Mitchell (4), reporting on the infection of children with the bovine tubercle bacillus, considers that the faucial tonsils not only act as the most frequent portals of entry for the tubercle bacillus in tuberculosis of the cervical glands, but that in a large proportion of cases a well-marked tuberculosis of the upper deep cervical glands is secondary to a small tuberculous focus in the tonsil. In 64 consecutive cases of children suffering from tuberculous disease of the upper deep cervical glands, he found histological evidence of tuberculosis in the tonsils in 24 cases (37·5 per cent.). An investigation of the hypertrophied tonsils removed from 90 children in whom the cervical glands showed no clinical evidence of tuberculous disease revealed histological evidence of tuberculous disease in 6 cases (6·5 per cent.), while 9 (10 per cent.) yielded positive results when inoculated into guinea-pigs.

PRESENT OBSERVATIONS.

A. The symptoms presented by the adolescent patients reporting at the Heart Department of the London Hospital were chiefly lassitude, exhaustion, and breathlessness on slight exertion. In the majority of the cases no history of immediately preceding infection was obtained, and the children were frequently brought to hospital because the mother considered that there was "something wrong with the child."

The chief abnormal signs presented by many of these patients were slight or moderate enlargement of the upper deep cervical glands, associated with tonsillar enlargement in many cases, in others with faucial injection only. Such children not infrequently were poorly developed, with deficient expansion of the upper chest, but no demonstrable signs of pulmonary disease were present.

B. Allied to Class A, and illustrating the condition at an earlier stage, is a condition where cervical glandular enlargement is present in the later years of *childhood*—6 to 12 years (7). In such children, as the late Dr. Eustace Smith pointed out, post-nasal catarrh is extremely common. These children are in a state of poor nutrition, they have little or no appetite, and suffer from disturbances of the alimentary tract. Bronchial catarrh is frequent, and unless treatment is directed to the throat the chest condition is very intractable. With the subsidence of the post-nasal catarrh and removal of the tonsillar infection, by operative measures when necessary, the glandular enlargement rapidly disappears, and there is speedy improvement in the general health.

C. An investigation into the state of the cervical glands during the course of scarlet fever (carried out at the Grove Fever Hospital, S.W.) revealed several points of interest.

One hundred consecutive cases were observed throughout their stay in hospital. Ninety-seven cases were mild, 3 cases were septic. Of the mild cases all recovered; one of the septic cases died on the thirty-fourth day.

Age and sex.—Eighty-six cases were under 12 years of age; 66 were males, 34 were females.

Length of stay in hospital.—The uncomplicated cases were sent to a convalescent hospital about the end of the fourth week, or to their own homes about the end of the sixth week.

Tonsils and fauces.—Ninety-one cases on admission presented enlargement of the tonsils and injection of the fauces. In 9 cases there was no enlargement of the tonsils and in 3 cases the fauces were apparently normal. One case, in which tonsillectomy had been performed a few weeks before admission had injected fauces; in this case the tonsillar glands were enlarged.

Glands.—On admission 99 cases presented enlargement of the tonsillar glands; in 84 of these cases enlargement of other of the upper deep cervical glands was also present; in one case the glandular enlargement was unilateral. In no case was there general glandular enlargement comparable with the cervical enlargement. Eighteen cases, however, had enlargement of glands either in the groins or axillæ. In 5 cases small hard glands (about the size of peas) were present both in the axillæ and groins; in 2 cases in the axillæ only; in 6 cases in the groin only; while in 2 cases a large soft gland was present in one axilla, and in a third case a similar gland in the groin; no local causes were obvious. The enlargement of the hard glands in these regions persisted, that of the softer glands occurring in 3 cases quickly subsided.

Duration of tonsillar and glandular enlargement.—In the uncomplicated cases the tonsillar enlargement and faucial inflammation usually disappeared towards the end of the first week, the cervical glands subsiding a few days later. In 14 cases the enlargement of the upper deep cervical glands persisted until discharge. Of these 14 cases 8 belonged to the group in which small hard glands were present either in the axillæ or groins. In 4 cases the tonsils appeared normal. In the remaining 10 cases the persistence of cervical glandular enlargement was accompanied by persisting enlargement of the tonsils and injection of the fauces.

Severe complications.—There occurred 3 cases of nephritis, 4 cases of arthritis, 2 cases of mastoid suppuration (1 fatal), and 6 cases of secondary cervical adenitis.

Tonsillar and glandular enlargement in relation to complications: Three cases of nephritis.—The cervical glandular enlargement persisted in one case throughout, in the second case till the thirty-eighth day, in the third case till the ninetieth day.

Four cases of arthritis.—The cervical glandular enlargement persisted in one case till the eighty-fourth day; in the second case till the thirty-eighth day. In the remaining two cases the glands subsided at the end of the first week and did not recur with or after the onset of the arthritis.

Two cases of mastoid suppuration.—The first, a case of septic scarlet fever, died on the thirty-fourth day from suppurative meningitis, secondary to the mastoid condition. The glandular enlargement was marked and persisted till death. In the second case the cervical glandular enlargement subsided on the seventy-ninth day, after the mastoid operation wound was healed.

SUMMARY AND CONCLUSIONS.

(1) Glandular enlargement is evidence of an infective process situated in the lymphoid tissue specifically drained by such glands. The flow of the lymph from the infected tissue is in one direction only, and each gland drains a definite and restricted area, the tonsillar lymphatics, *e. g.* passing directly to the tonsillar gland.

(2) In the majority of cases of chronic cervical glandular enlargement the associated infection is simple in nature and quickly responds to appropriate treatment, the glandular enlargement subsiding as soon as the infective process is removed. Fourteen per cent. of scarlet fever patients, however, on discharge from hospital presented evidence of persisting throat infection (evidenced by glandular enlargement) in spite of energetic treatment.

(3) Persistent cervical glandular enlargement in the course of scarlet fever was found to be associated with severe constitutional symptoms, and complications which included nephritis and arthritis.

(4) When *chronic* cervical glandular enlargement persists in spite of local treatment of the throat, the lymphoid tissue involved (*e. g.* tonsils) is frequently the seat of a tuberculous lesion, the glands being secondarily infected.

(5) Simple chronic glandular enlargement in young children is associated with malnutrition, and alimentary and respiratory disorders. When the glandular enlargement persists into adolescence, or develops, these patients suffer from apathy, exhaustion, and dyspnœa on slight exertion. The symptoms are sufficiently severe to suggest cardiac disease, which careful examination fails to reveal.

This association is so important that it indicates early and complete treatment—directed to the infective focus—in all cases of cervical glandular enlargement, including operative measures when required.

References.

(1) Judd.—'Annals of Surgery,' 1910, lii, p. 760.
(2) Leaf.—'The Lymphatics,' Lond., 1903, translation of Delamère.
(3) Mathews.—'Annals of Surgery,' 1910, lii, p. 756.
(4) Mitchell.—'Brit. Med. Journ.,' 1914, i, p. 125.
(5) Starling.—'Principles of Human Physiology,' 1912.
(6) Stiles.—'Burghard's System of Op. Surg.,' 1909, iii, p. 6.
(7) Waugh.—'Quart. Journ. Med.,' 1910–11, iv, p. 521.

INFANTILE PARALYSIS.*

By Samuel G. Dixon, M.D.

Commissioner of Health for Pennsylvania.

Anterior poliomyelitis is a subject upon which much work has been done and much been said, but there is as yet a dearth of exact knowledge. I wish to-night to refresh your memory upon the active part taken by the Pennsylvania Department of Health, and the recommendations which may be put forth as a result of this work. While generalisations are uncertain, we must be prepared for an epidemic condition of poliomyelitis this year, although the history of epidemics of poliomyelitis does not point to a recurrence of an epidemic or a large number of sporadic cases this season.

The history of the disease dates back to 1838. Since this time it has extended from Norway to Northern Alaska, and to most of the southern states of this country. In 1907 the first epidemic occurred in Pennsylvania. It began in midsummer, and increased in severity until November. The annual report of the Pennsylvania Department of Health for 1907 (pp. 420–440) contains a complete study of the work done during the epidemic.

This article is particularly interesting because it cites the fact that "a Gram-positive diplo- or tetracoccus was recovered when the spinal fluid was poured into glucose bouillon and incubated. This Gram-positive diplo- or tetracoccus was found in all the cultures from the nose and throat. None of these cultures produced any pathogenic manifestations in experimental animals which could be compared to poliomyelitis; indeed, they seemed devoid of pathogenicity."

---

* A paper read before a public meeting of the Philadelphia Pediatric Society on June the 12th, 1917.

This report shows the work done with animal inoculation at this time—1907. Spinal fluid from patients with the disease was injected into the spinal canal of monkeys. No results were obtained. We are watching the Chicago workers, who, at the present time, seem sanguine of the results obtained with an organism which they have isolated.

In the epidemic of 1907 the various stages of the disease were studied. One hundred and thirty-eight cases were reported that year. Seven counties shared in the outbreak. In 1908 Pennsylvania suffered slightly. In 1910 the total number of cases reported was 1112; 269 deaths occurred. We therefore looked forward to 1911 with anxiety, but only 177 cases occurred. In 1912, 267 cases were reported; in 1913, 141 cases; in 1914, 113 cases; and in 1915, 162 cases. A definite decline followed by a slight rise is thus shown.

During these years the reported cases were scattered over the state, and often occurred in extremely isolated districts, but in 1915 an epidemic of about 100 cases occurred in Erie.

In 1916, during the first six months of the year, 22 cases appeared in Pennsylvania, scattered over 45,000 square miles. As the summer approached, a severe outbreak occurred in the city of New York, an outbreak previously unequalled in the number of cases, rapidly extending into New Jersey and other states. Because of the hysteria seizing the people, the question of dealing with the psychological condition thus caused arose. While there was much evidence of direct contact as the cause of the disease, the possibility of the presence of an intermediate host or carrier could not be gainsaid. Three weeks' quarantine was adopted in New York, and four weeks' in Philadelphia. This year—1917—the quarantine throughout the state of Pennsylvania will be three weeks. As a means of prevention of the spread of the disease, railroad stations and similar places were guarded. Children under thirteen years of age without a health certificate were deprived of the privilege of entering the state. All cars carrying second-hand furniture were disinfected. All transportation vehicles were thoroughly cleaned. There was considerable trouble with educators throughout the state. These people seem to think that education produces immunity to disease.

As a result of the precautions observed above, the city of Philadelphia escaped with an incidence of 1 case of poliomyelitis to 15,000 population. Compare with this the New York figure of 27 cases per 15,000, and in Newark of 49·5 cases per 15,000. In other words, this latter figure shows that the infection was about fifty times greater than in Philadelphia. It was noticeable that the terminals of great railroads became centres of infection. By the quarantine of these centres much was done to prevent cases coming to large cities. The people were advised to keep away from infected areas. In Pennsylvania cases were always strictly quarantined. In some of the infected districts in New York there was placarding without real quarantine. Everything possible was done in New York, however, to carry cases to hospitals, where, of course, good quarantine must have been enforced.

Fortunately our Department in 1915 was organised to take charge of epidemics and catastrophies, and mobilisation was quickly accomplished. Railroad stations, ferries and steamboat landings, public highways, motor- and row-boats, bridges and automobiles were guarded by our police.

Certificates from health officers in their home districts were required from travelling children. Passenger cars and freight cars carrying second-hand furniture were disinfected. Thousands of sick and infected children were excluded from our districts by these measures. We realise that it is claimed that persons who do not become immune by having the disease will become infected when exposed, but possibly so slightly as to escape recognition under ordinary circumstances. This is not satisfying when we consider that among thousands of children in institutions 100 per cent. either resist the disease entirely, or to such an extent that they never appear to be sick.

In our laboratories in 1916 a large number of healthy monkeys were exposed to monkeys sick with the disease, and none of the healthy monkeys developed paralysis. We even smeared the mucous membrane of the healthy ones with secretions from the sick monkeys, but never caused the illness to be transmitted. In explanation of the reason for the entire non-susceptibility of institutional children as compared with children in private homes, we may offer the possible explanation of food being always served cooked in institutions, whereas much of the food in private homes is uncooked, especially among the Italians. This explanation is not nullified by the occurrence of infantile paralysis in breast-fed babies, because such infants may pick up a variety of infections from the hands and the surface of the nipples of the mothers.

The laboratory does not yet give us the cause of poliomyelitis. The field of research has been somewhat reduced. To-day we are working along several lines of immunity and for the prevention of infantile paralysis. As health officers we are particularly interested in the prevention of the disease, or in an antitoxin that will prevent paralysis.

To-day we are in the midst of most interesting work. We are not altogether alone in our experiments. With others we are striving to produce a substance that will modify the disease commonly known as infantile paralysis. With a virus made from the human spinal cord of a patient dead from the disease, a monkey—most susceptible of the lower animals—was injected. A young rabbit was next inoculated intraperitoneally with a saline emulsion of a portion of this monkey's spinal cord. This produced what we called poliomyelitis in the rabbit, and from this rabbit's spinal cord, and from rabbits successfully inoculated with the emulsion from the preceding rabbit's cord, a series of ten rabbits was inoculated. Then, believing we had a modified condition, we reversed our work, running down the line of rabbits, each time using a stronger virus. When we reached No. 4 we returned it to a monkey, with a modified result. This experiment is only sketched in order that you may have some idea of the methods adopted in our study of the disease.

We have nothing to say to the public that would give them any false hope. They must understand that we do not as yet know what produces the disease. The diagnosis depends upon keen diagnostic skill. We cannot agree with experimenters who have suggested that they can diagnose the disease on the stage of the microscope. Mistakes can often be made with the microscope, and the same abnormalities of the spinal fluid may obtain in conditions other than poliomyelitis.

To the public we would recommend a close watch upon children during the present season, and the calling of a physician upon the least suspicion, remembering that the disease has a variety of ways of presenting itself.

It is to be hoped that the laboratory will soon produce a biologic product or therapeutic agent that will be an exact and specific remedy for this disease. The people must be educated. The importance of thorough general cleanliness is to be emphasised. We recommend the cooking of all foods for all children. If the disease should arise the congregation of children should be discouraged. Children should have regular feeding in moderation. Babies and small children should not be chilled at night. No animals with parasitic insect life should be allowed in the house. Adults who travel should brush their clothes very thoroughly before coming into contact with any children. Rubbish should be destroyed. Breeding-places for mosquitoes and other insects should be removed.

Remember, in this connection, that bell-trap drains are often breeding-places for mosquitoes. The quarantine of cases this year in Pennsylvania will probably be three weeks, but whether or not a general quarantine be established will depend entirely upon the progress of the disease.

I want again to refer to the need of sending for a physician when your child gets sick. In this early stage he is much needed. The child needs absolute quiet and rest. If any deformity comes from the attack you want the orthopædist. Parents are specially warned against resorting to charlatans, who promise the impossible. Don't permit manipulation, electricity, or massage, except under the advice of a physician of high standing, otherwise the child's sole chance of recovery may be swept away by vicious treatment.

TWO FRESH CASES OF MENINGOCOCCAL INFECTION WITH PRESENCE OF THE MENINGOCOCCUS IN THE PURPURIC ERUPTION: CULTIVATION OF THE MENINGOCOCCUS FROM THE SERUM OF A VESICLE IN ONE OF THE CASES. OCCURRENCE OF A STRAIN OF MENINGOCOCCI DIFFERING FROM THE TYPICAL MENINGOCOCCUS.*

By A. Netter, Marius Salanier, and Mlle. Blanchier.

In our communications of July the 22nd† and November the 18th, 1916, we established the possibility of recognising, by microscopical examination, the nature of purpuric lesions in the course of cerebrospinal meningitis or even apart from any meningeal localisation.

We have recently made a similar observation in two other cases, which serve to confirm and complete our original conclusions.

We will begin by giving a short account of these two fresh cases.

The first is that of a previously healthy infant seen in private practice, aged 17 months, who was suddenly seized with very violent convulsions and high fever in the night of June the 15th–16th. On our arrival on June the 16th at mid-day the child was in subintrant convulsions. There was no sign of meningitis to be found, and there was merely a slight eruption, resembling German measles, at the back of the head. Lumbar puncture gave issue to a perfectly clear and apparently normal fluid under no tension. It contained, however, a slight excess of albumin, and eleven leucocytes per cubic millimetre could be counted. There were no micro-organisms on direct examination or in cultures.

---

* A paper read before the Société de Biologie, Paris, on June the 30th, 1917.

† *Vide* British Journal of Children's Diseases, 1917, xiv, p. 101.

After the puncture the convulsions ceased, but the temperature kept above 104° F., and there was much prostration. In the afternoon of the 17th we found a discrete purpuric eruption on several parts of the body. We at once thought of a meningococcal infection, and decided to inject meningococcal serum. Although there were no more signs of meningeal involvement than there had been on the previous day, it seemed advisable to perform a fresh lumbar puncture, as we had determined to inject the serum into the spinal canal, whatever the character of the fluid obtained. On this occasion we obtained a purulent fluid containing meningococci.

As the result of energetic serum treatment, the child recovered, though it developed arthritis in thirteen joints. We were able to find the meningococcus on direct examination, and in cultures of the pus from two of its joints. It was possible to identify this meningococcus with a strain, for which M. Nicolle, of the Pasteur Institute, had supplied a very active serum, for which we are doubtless indebted for the recovery of this remarkably severe case.

On scarification of a purpuric lesion on June the 18th, after carefully washing it, we obtained smears, in which we were able to detect diplococci shaped like coffee berries, and not staining by Gram, which we did not hesitate to regard as meningococci.

The second patient, aged 6½ years, was admitted on June the 20th in Dr. Triboulet's ward for urgent operation with the diagnosis of appendicular peritonitis.

The patient's appearance on admission was, to some extent, suggestive of peritonitis, the features being drawn, the eyes hollow, the tongue dry and coated, the pulsed rapid and feeble—130 to the minute. But the abdomen, which showed a scaphoid retraction, was lax, and could be readily palpated. Attention was immediately drawn to some small purpuric spots situated on the abdomen, and to some others scattered on the limbs. On making an examination for meningeal signs, some degree of nuchal rigidity, Kernig's sign, and the meningeal streak were found. Lumbar puncture gave issue to a definitely purulent fluid, which, on microscopical examination, showed numerous meningococci. In spite of three injections of serum (30 c.c. on the 20th, 40 c.c. on the 21st, and 40 c.c. on the 22nd), the condition got worse, and the child died on the night of the 22nd to the 23rd.

Cultivation of the cerebro-spinal fluid and blood showed meningococci. On the 22nd the purpuric spots were more numerous, and some were covered with vesicles.

Examination of the serum of the vesicles from a purpuric spot on the little finger and big toe showed a number of diplococci shaped like coffee-berries and not stained by Gram.

After due antiseptic precautions, we obtained from the serum of the vesicles on the finger and toe pure cultures of meningococci which, like those of the micro-organisms obtained from the cerebro-spinal fluid and blood, were agglutinated by the anti-meningococcal serum B., and were identical with those of the micro-organism isolated from the cerebro-spinal fluid and knee of the first patient.

In a third child who presented purpura with suppurative iridocyclitis without suppurative meningitis, examination of the purpuric patches remained negative.

The study of these cases and those which we have previously recorded enables us to draw the following conclusions:

(1) The meningococcal nature of the diplococci in the purpuric spots of cerebro-spinal meningitis can rapidly be established. We had positive results in four out of seven cases. Positive results were constant in the three patients in whom the purpuric lesions were covered with vesicles.

(2) The morphological characters of the cocci in the preparations appeared to us to be sufficiently convincing. In one case we succeeded in obtaining typical colonies on cultivation.

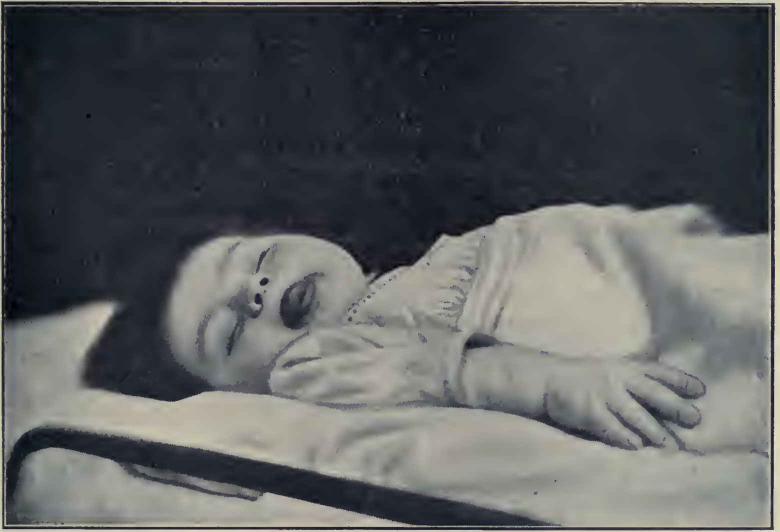
(3) The interest of these cases is all the greater, as in two patients, the fluid withdrawn by lumbar puncture remained normal, and in the third it was normal at the first puncture.

(4) In our last two cases we succeeded in determining the strain of the causal meningococci. They were not agglutinated by the typical anti-meningococcal serum, but by that prepared against a strain of meningococci which Gordon, Ellis and Arkwright have shown to be frequently active among the English troops. This is also the predominating strain in Paris at the present time. These cases confirm what we have frequently stated as to the probable occurrence in most cases of purpura with meningitis of a type of meningococci differing from the ordinary strain and the value of a polyvalent serum. Thanks to the employment of a serum prepared from meningococci of this type we succeeded in curing our first patient, although her attack was particularly severe.

MONGOLISM ASSOCIATED WITH CONGENITAL CATARACT.

By F. Parkes Weber, M.A., M.D., F.R.C.P.Lond.

The association of mongolism with congenital deformities has been frequently referred to in the literature of the subject. Congenital heart disease (valvular malformation) in mongoloid idiots has been recorded by A. E. Garrod (1) and others (2). W. Bertram Hill (3) several years ago gave a summary of the various congenital abnormalities which had been met with in cases of mongolism. He thought that congenital heart disease was present in 10 to 20 per cent. of all cases. The only published account that I can find of the association of mongolism with congenital cataract is that given by him (Case 5). In his case the child died very suddenly thirty-six hours after the operation of needling.



Photograph of a case of mongolism associated with congenital cataract.

For the present case I am indebted to my colleague, Dr. R. Gruber, under whose care the child was admitted to be operated on for congenital cataract. (He has already operated on one eye.) The patient in question is a boy, S. H—, aged 13 months, of Hebrew origin. He has a brachycephalic head and the palpebral fissures slope upwards and outwards in the mongoloid style. The bridge of the nose is depressed and broad. He seems happy and contented if left to himself, and mostly lies with grimacing face and with his large tongue more or less protruded between the lips (see illustration). The belly is big and prominent and there is an umbilical hernia. The presence of rickets is evidenced by considerable "beading" of the ribs. None of the teeth are yet cut. Besides the congenital cataract there is internal strabismus, with (sometimes) nystagmus-like movements. The thumbs and little fingers are rather short in proportion to the other fingers, and the little fingers present a slight lateral curve* with the concavity of the curve towards the other fingers (not well shown in the illustration). Both the hands and feet look fleshy and clumsy. The child is flabby and feeble and can hardly hold its head up, but some of this muscular hypotony (amyotonia) may be connected with the rachitic element in the case. There is no cardiac disease, nor is there evidence of any abnormality in the thoracic or abdominal viscera. There is no "Mongoloid" bluish pigmentation about the sacrum or nates.

Bertram Hill, in his paper on "Mongolism," says (4): "In younger subjects the tongue is nearly always protruded. . . . The most striking condition of the tongue does not seem to appear till some little time after birth. The papillæ become enlarged and the surface of the organ covered with numerous and deep fissures. The term, *hacked,* which has been used in this connection, describes the condition exactly."

In the present case the tongue is certainly large, but there is none of this fissured condition with enlargement of the papillæ, as described by Bertram Hill. In an imbecile girl (P. K—, aged 14 years), however, who was recently under my care for observation in the hospital, the tongue, though if anything small rather than large, was "fissured" and covered with enlarged papillæ. She was not typically of the "Mongoloid" type; the upper part of the face was somewhat depressed, but the lower jaw projected. It seems that the large papillæ and the fissures observed on the tongue in the cases mentioned by Bertram Hill, constitute the not uncommon type of tongue, known as "scrotal tongue," "furrowed tongue," "cleft tongue," or "fissured tongue," which is met with in a great many otherwise normal persons. Excepting in mongolism this form of tongue is said to be always congenital, and it is sometimes familial. It has also been wrongly attributed to inherited syphilis. In ordinary persons it is of little consequence, excepting that, owing to retention of particles of food in the clefts, it favours a condition of superficial glossitis, with which in fact it is often associated, especially when the owner of such a tongue is suffering from alimentary or pyrexial affections.

---

* This is like Landouzy's "camptodactylia" (condition of curved little finger).

The patient in the present case is the second child of a rather stout Hebrew woman, aged about 30 years or so, whose blood-serum gives a negative Wassermann reaction. For the photograph I am indebted to the kindness of Dr. H. Schmidt.

Mongolism need not, of course, necessarily be associated with idiocy or imbecility. Thus, G. A. Sutherland (5), at the Society for the Study of Disease in Children (January the 18th, 1907) showed a girl, aged 8 years, with shortening and curving of the little fingers, as in the present case, and with the oblique or slanting palpebral fissures characteristic of the Mongoloid type of imbecility, but she was perfectly intelligent.

REFERENCES.

(1) GARROD, A. E.—'Trans. Clin. Soc. Lond.,' 1898, xxxi, p. 316; and 'Lancet,' London, 1898, ii, p. 1258.

(2) LANGMEAD, F.—'Reports Soc. Stud. Dis. Child.,' London, 1908, viii, p. 276; GEORGE CARPENTER, *ibid.*, 1908, viii, p. 278.

(3) HILL, W. BERTRAM.—"Mongolism and its Pathology," 'Quarterly Journ. of Med.,' Oxford, 1908, ii, pp. 49–68.

(4) HILL, BERTRAM.—*Loc. cit.*, p. 52.

(5) SUTHERLAND, G. A.—'Reports Soc. Stud. Dis. Child.,' London, 1907, vii, p. 100.

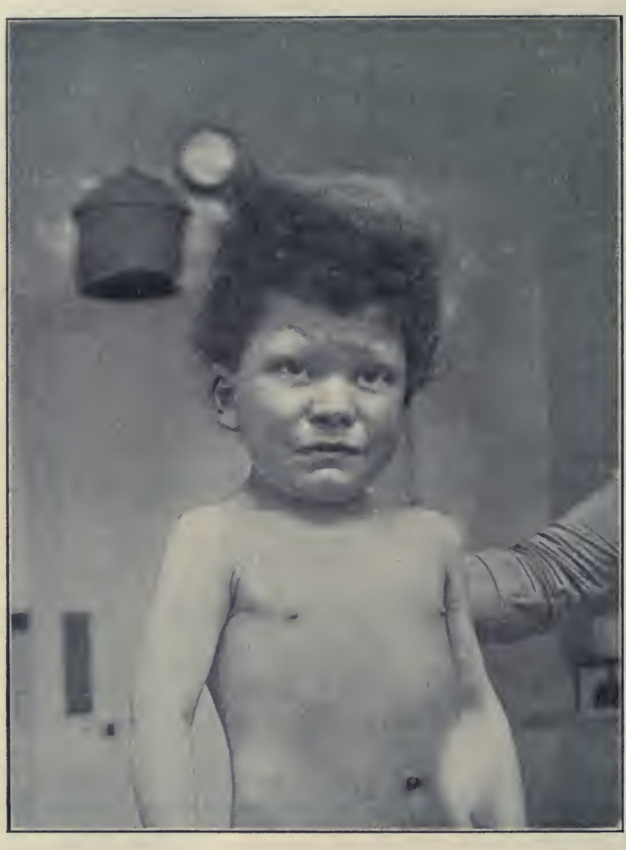
CONGENITAL HEART DISEASE IN A MENTALLY DEFECTIVE CHILD, WITH A NEGROID-MONGOLOID FACIES.

By F. PARKES WEBER, M.A., M.D., F.R.C.P.Lond.

THE patient, S. K—,* is a girl, aged 4 years, whose mother is English (a native of London) and whose father is German. Her head is brachycephalic, but large and capacious. The photograph (see figure) shows the general appearance of her face. The slight upward slant of the palpebral fissures outwards, is, however, unfortunately not well seen in the photograph. There is no epicanthus, nor epicanthus-like fold, present. The broad nose, with low, flat bridge, and the lips, cheeks, and soft parts above the eyes, look thick and coarse, and the face is highly coloured (at times) with red. The external parts of the ears are likewise large and thick, and the upper edges of the pinnæ are excessively folded over. The hair of the scalp is curly, but it is rather scanty (this is not well shown in the photograph); there is no hair whatever on the eyebrows and lower eyelids; and there is hardly anything in the way of upper eyelashes.

---

* The paper was read at the Royal Society of Medicine, Section for the Study of Disease in Children, October the 26th, 1917.



The tongue is natural, that is to say, it is not large, nor kept lolled out, and is not specially rough, nor of the so-called "cleft" or "fissured" or "scrotal" kind. On the whole, the child is well-grown for her age; and there is no umbilical or other hernia. There is no special curvature of the little fingers, nor is there any abnormality of the hands and feet, excepting a decided bilateral condition of flat-foot (talipes valgus). Neither palm shows the single transverse "line" (crease-mark), as described by Reginald Langdon Down and

F. G. Crookshank in some Mongoloid idiots (generally in their left hands only).*

There are no signs of rickets. A striking feature is a condition of xerodermia, involving more or less the whole skin of the trunk and extremities. The skin is dry, rough, and in parts feels like sand-paper (owing to follicular projections). The thyroid gland is certainly not a big one, but it cannot be felt distinctly.

On examination of the heart, which is not decidedly enlarged (or, according to Roentgen-ray examination, only very slightly so), there is found to be a definite systolic murmur always present, especially well heard over the base, to the left of the sternum (the so-called "pulmonary area"). Nothing else abnormal can be detected in regard to the thoracic and abdominal viscera. I think that the child must have some form of congenital heart disease, perhaps congenital pulmonary stenosis; and it is just possible that the occasional high colouring of the face may be partly connected with it. There is no history of rheumatism and no "rheumatic nodules" can be detected. The only acute illness from which the child is known to have suffered is an attack of whooping-cough.

The patient's mother is a healthy-looking woman, aged 35 years, whose Wassermann reaction (Dr. H. Schmidt) is negative. She has, she says, only once been pregnant, the present patient being the fruit of that pregnancy. The child's father, whom I have not seen, is said to be a temperate man, in fairly good health. The child was born by the help of instruments (under chloroform); for the first month the mother suckled it, but after that it was bottle-fed.

A great difficulty is to decide on the child's mental development, for she is almost, or completely, deaf, and consequently cannot speak, and is, of course, "backward." She is certainly not quite clean in her habits. She is not mischievous or bad-tempered. She is said to find out things by observation, and knows that a hair-brush is meant for the hair and that a boot-brush is used for the boots, and so on. She can to some extent be made to do things by gesture.

On the whole, I think it probable that a certain amount of the child's mental backwardness is not dependent on the deaf-mutism, and that there is likewise slight imbecility (more or less of the Mongolism kind) present, associated, perhaps, with an element of cretinism, or infantile myxœdema. The presence of hypothyroidism is suggested by the child's rough (xerodermatous) skin, scanty hair, and puffy facies. Mongolism is known to be occasionally associated with hypothyroidism, but it must be admitted that, in the present case, thyroid treatment has as yet led to no decided change of any kind ; it has, however, been insufficiently tried, and will therefore be continued for a time.

---

* *Cf.* F. G, Crookshank, "Mongols," 'Universal Med. Record,' 1913, iii, p. 26; and his paper on "Biology, Anthropology, and some Disorders of Childhood," in 'School Hygiene' for 1914, v, p. 65.

There certainly seems to be a "Negroid" appearance in the child's face, and this reminds one that Dr. J. Langdon Down,* in his paper of 1866, which led to the separation of a "Mongoloid" group of feeble-minded children, referred also to other imbecile European children as sometimes having a Negroid, a Malayan, or a North American Indian physiognomy. In the present case the facies might, perhaps, be termed "Negroid-Mongoloid." Congenital heart disease (valvular, or due to other structural malformation) in Mongoloid idiots has been recorded by A. E. Garrod† and others.‡ W. Bertram Hill § several years ago summarised the various congenital abnormalities which have been met with in cases of Mongolism and thought that congenital heart disease was present in 10 to 20 per cent. of all cases. Dr. H. Morley Fletcher, however, tells me that congenital heart disease is not rare in imbecile children other than those of the Mongoloid group.

CONGENITAL HIRSUTIES IN A CHILD ("SIMIAN TYPE").

By F. Parkes Weber, M.A., M.D., F.R.C.P.Lond.

The patient || is a girl, E. W—, aged 4 years, born in London, of Irish and Austrian parents (not Hebrew). The hypertrichosis affects the forehead, temples, sides of face, the back (especially the upper and lower portions and the vertical line over the spinal column), and the upper and lower extremities. The regions of the axillæ, groins, pubes, front of the trunk, and the neighbourhood of the mouth and nose are not hairy. The child has corneal opacities

* J. Langdon Down, 'London Hosp. Rep.,' Lond., 1866, iii, pp. 259-262.

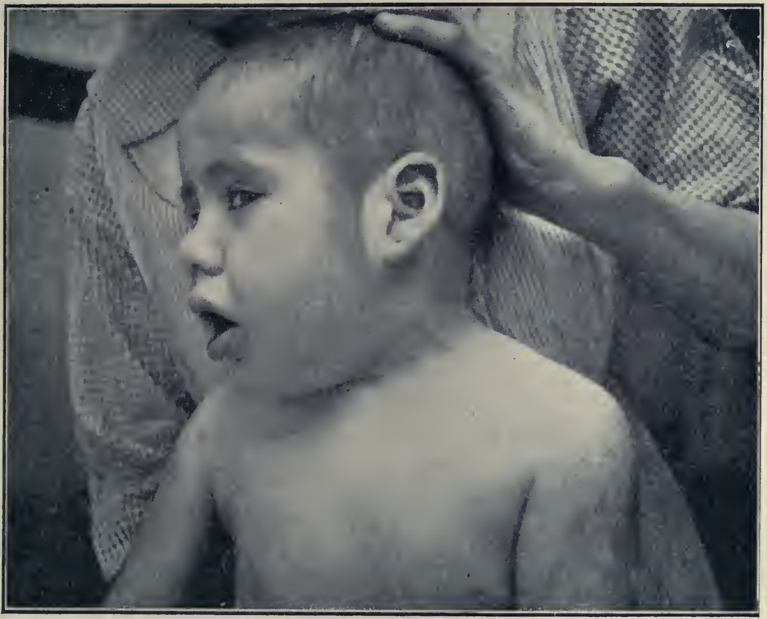
† A. E. Garrod, 'Trans. Clin. Soc., Lond.,' 1898, xxxi, p. 316; 'Lancet,' London, 1898, ii, p. 1258.

‡ F. Langmead, 'Reports of the Society for the Study of Disease in Children,' London, 1908, viii, p. 276; George Carpenter, *ibid.*, 1908, viii, p. 278 ; and others.

§ W. Bertram Hill, 'Quart. Journ. Med.,' Oxford, 1908, ii, pp. 49-68.

|| The case was shown before the Dermatological Section of the Royal Society of Medicine on July the 19th, 1917.

from old phlyctenular keratitis, and has been treated for adenoid vegetations, enlarged tonsils, and otorrhœa, but otherwise shows no signs of disease, and is mentally normal. There is no marked prognathism of either jaw, and when the jaws are closed, the lower teeth come behind the upper teeth, as they do in ordinary individuals. The nose and lips and cheeks are thick, and the bridge of the nose is low (see figure). There is nothing to suggest the presence of a hypernephromatous tumour in the abdomen, and a Röntgen skiagram of the base of the skull shows nothing abnormal about the pituitary fossa. There is no sign of any precocious or abnormal sexual condition. The moderate degree of hirsuties present is rather of the "Simian type" (see further on) than of a type suggesting suprarenal or other endocrine disturbance. In the present case it is, according to the mother, congenital, but not familial. The mother's two other children (a girl and a boy) are said to be quite normal, and there is no history of hypertrichosis in any other members of the family. There is the usual history of "maternal impression." The mother says that whilst she was pregnant, about three months or so before the birth of this child, she used frequently to see a monkey, which belonged to a lady in the neighbourhood.



There is no evidence of congenital syphilis. The Wassermann reaction has not been taken in the patient herself, but in her father, her mother and her brother it has been found to be negative (Dr. H. Schmidt).

Excluding cases of local hypertrichosis of the "nævus pilosus" kind I think cases of hypertrichosis or hirsuties may be roughly classified as approximating more or less to one or the other of two main types. In the *first*, which may be termed the "Simian type," the hypertrichosis is congenital or developmental and sometimes familial, and may be regarded as an example of so-called "degenerative" reversion. In spite of the absence of any similar condition in the family I regard the present case as a minor example (that is to say, of relatively slight degree) of the "Simian type." The *second type* is associated with, and secondary to, disorders of the endocrine organs (suprarenal glands, etc.), and is generally not congenital and not familial.

NOTES ON A CASE OF CONGENITAL UMBILICAL HERNIA, ECTOPIA VESICÆ, AND IMPERFORATE ANUS.

By Frederick C. Pybus, M.S., F.R.C.S.,

Surgeon to the Hospital for Sick Children; Assistant Surgeon to the Royal Victoria Infirmary, Newcastle-on-Tyne.

During the past five years ten cases of imperforate anus have come under my notice. In most cases the anal or rectal defect was the only one present. In this patient multiple defects were present, but were of such a nature that operation seemed to hold out the possibility of being able to restore the child to an almost normal condition. It was on these grounds that operation was undertaken, and was so far successful that the child lived nearly three weeks, and, had not digestive difficulties supervened, I believe it would have survived and perhaps become a useful member of society.

A male infant, aged 6 hours, was admitted under me at the Hospital for Sick Children on March the 28th, 1916.

It was the first child of parents aged 42 and 34 years, who were first cousins. There had been a previous miscarriage about a year ago.

The child was well nourished and of normal weight. There was a congenital umbilical hernia at the base of the cord, about the size of a hen's egg, containing small intestine which could be seen readily through the thin membranous sac. Adjoining and below this was a bright red swelling, of about the same size, extending down to the base of the penis. This represented an everted bladder. The walls of this protrusion could be pushed back toward the abdomen and its lateral margins could be brought together, showing that the bladder could be completely restored. The neck of the bladder seemed fully formed and the penis was intact, suggesting that the sphincteric apparatus would be efficient if the bladder were restored.

The anal depression was well marked and I thought that only a thin membrane was present. Altogether the case seemed an unusually favourable one and worth trying to save.

Operation.—March the 28th, 1916, at 4 p.m. The umbilical sac was removed and the intestines returned within the abdominal cavity. The wound was packed with gauze. The margins of the extroverted bladder were then separated from the skin of the abdominal wall and behind this from the peritoneum, and the whole organ isolated. Its posterior surface was covered by peritoneum, while part of its lateral walls was raw from being separated. A probe passed up the urethra entered the basal portion and was a useful guide. It was noted at this time, the peritoneum being widely open, that the pelvic colon was intact and passed down to the pelvic floor. The bladder was now inverted and its lateral margins brought together in the middle line by catgut sutures. It formed a definite sac, and a fine catheter was passed up the penis into it and retained in position by a suture at the frenum.

The bladder was now returned into the abdomen and the abdominal wall repaired, a continuous catgut suture passing from the pubes to the region of the umbilicus. This suture was reinforced by interrupted sutures of silkworm gut.

The child was now placed in the lithotomy position and a small crucial incision made at the anus. This opened into the rectum, a thin anal membrane only being present, and allowed the meconium to escape.

The child seemed little worse for the operation. The catheter was removed on the seventh day, and after this micturition proceeded in a normal manner. The sutures were removed on the twelfth day, and after this the child was allowed to go home.

The mother wrote seven days later to say the child had died, but I was unable to get permission for any further examination.

Royal Society of Medicine.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Friday, October the 26th, 1917.

DR. H. MORLEY FLETCHER, *President, in the Chair.*

A Case for Diagnosis.—Dr. ERIC PRITCHARD.—A girl, aged 2 years, was admitted into hospital on August the 29th, in a fit. The previous day she had been quite well, but towards evening seemed drowsy and feverish.

Past history.—No previous history of fits. She had not had scarlet fever, but earlier in the year had been under treatment outside for "some inflammation of the bladder." There was no history of syphilis.

On admission.—Temperature, 102° F. The child was unconscious. The body and limbs were extended and rigid. Mouth firmly clenched, and three teeth were taken out as the child seemed to be in danger of swallowing its tongue. Eyes widely open and fixed, pupils dilated and equal. Reflexes all exaggerated. The fit lasted all the evening until 10 o'clock when the child commenced screaming, and the temperature rose to 104° F. Heart, lungs, and abdomen apparently normal. Liver not enlarged. Spleen not felt. There seemed to be a little tenderness over the region of the kidneys posteriorly, rather more marked on the right side. The urine was acid and contained pus and numerous coliform bacilli. Lumbar puncture negative.

Progress.—After two hot-air baths (at 115° F.) the child seemed to show a little improvement, but did not show the slightest sign of recognition of its parents. Very drowsy and irritable. Temperature fluctuating. This continued for a week, the temperature gradually falling to normal. Ten days after admission the child showed more improvement and was able to sit up in bed, when it was noticed for the first time that she seemed blind. Ophthalmoscopic examination showed the fundus normal but very pale. Temporal side of disc pale. Edges clean cut. Vessels normal, somewhat congested. Macula normal. Retina appeared healthy. The child had since made good progress, and did not seem mentally affected. Examination of the eyes showed the same condition as that noted above. Wassermann reaction negative. The urine was normal.

Note on Three Cases of Melæna Neonatorum Successfully Treated by the Injection of Whole Blood or Blood Serum.—Dr. ROBERT HUTCHISON.—CASE 1.—A female child, aged 2 days. The day after birth began to pass blood from the bowel; no hæmatemesis nor bleeding elsewhere.

On admission the child was blanched and profuse melæna was present. The same evening 5 c.c. of human serum obtained from the blood of a patient with erythræmia was injected *sub cutem.* Next day there was a small attack of epistaxis but no further bleeding from the bowel, and the child was discharged a week later apparently well.

CASE 2.—A male child, aged 4 days. Two days after birth several hæmorrhages from the bowel took place, the last just before admission.

The child was well nourished, but pale and slightly icteric. Two hours after admission 5 c.c. of serum obtained from the same patient with erythræmia, as in the first case, was injected under the skin of the back.

Six hours later the child looked much better and only one further slight attack of bleeding had occurred. Next day the stools were normal, and three days later the child was discharged.

CASE 3.—A male child, aged 30 hours. Blood was noticed in the first action of the bowels after birth and four tarry stools had been passed since. There had been no hæmatemesis.

A healthy-looking well-developed child of normal colour. Napkins showed typical melæna of considerable amount. On the afternoon of admission 8 c.c. of whole blood furnished by the ward sister were injected into the subscapular region. In the next twenty-four hours there were four more small tarry stools, after which the hæmorrhage ceased, and the child was sent home well three days later.

Dr. HUTCHISON said that there was nothing new in this treatment of the hæmorrhagic disease of the newly-born by the injection of human blood or blood serum. It was introduced by J. E. Welch in the year 1910, and many successful cases had been recorded since, especially in America. In this country, however, it did not appear to be very generally known yet, so it seemed worth while to put on record the three cases described above, which occurred consecutively. How the serum acted it was impossible to say with certainty, but it seemed probable that it supplied some constituent which was lacking in the infant's blood and which was essential for clotting. Human blood or blood serum was used in all the cases described, but normal horse serum or anti-diphtheritic serum would probably do as well.

Congenital Heart Disease in a Mentally Defective Child, with a Negroid-Mongoloid Facies.—Dr. F. PARKES WEBER (*vide* p. 269).

SECTION OF OPHTHALMOLOGY.

February the 7th, 1917.

Three Cases of Fur Infection of the Conjunctiva from Cats.—Mr. ARNOLD LAWSON.—CASE 1.—The patient was a girl, aged 15 years, an only child, who was devoted to a Persian cat. One evening, during which she had frequently buried her face in the cat's fur, her eyes became suffused and she developed a bad sneezing fit. The next day both eyes were streaming with yellow, purulent discharge, and the lids were much chemosed. The nostrils were similarly greatly swollen and purulent. Cultures taken of the discharge and from the cat's fur showed that the same organism, the *Staphylococcus pyogenes aureus*, was present in both.

Recovery finally took place as the result of local treatment.

CASE 2.—A boy, aged 14 years, who was in the habit of walking about with a Persian cat perched on his left shoulder and of cuddling it at irregular intervals, developed inflammation of the left eye and slight swelling over the left parotid. When seen by Lawson a fortnight after the onset the whole left side of the face was much swollen, and there was a brawny induration over the parotid, with the skin slightly reddened over the angle of the jaw. Extending into the neck and almost continuous with the parotid swelling was another indurated mass, evidently consisting of swollen glands. The lids of the left eye were considerably swollen, and on eversion the conjunctival surfaces of both tarsi were seen to be fairly covered with coarse granulations, especially marked in the upper lid, where, near the fornix, there were some bunches of exuberant granulation tissue. The retrotarsal portions of both sacs were much chemosed, with great enlargement of the follicles, and a fairly abundant muco purulent discharge lay in the furrows of the swollen tissues. The bulbar conjunctiva was also considerably swollen and rather pink in colour. The cornea and all other structures were quite healthy.

The disease was treated by thorough cutting and scraping under an anæsthetic, finishing up by thoroughly swabbing out the upper and lower sacs with a 2 per cent. solution of silver nitrate. The glandular swellings at once began to subside, but treatment for about six weeks with argyrol, weak copper drops, and silver nitrate was necessary before complete recovery took place.

Examination of the scrapings showed *Streptococcus longus*, *Streptococcus brevis*, and *Staphylococcus albus*. The hair and skin of the cat were then examined, with the following results: The chief organism found in the hair was a *Staphylococcus albus*, whilst in the skin the most important organisms were *Streptococcus brevis* and *Staphylococcus citreus*.

Case 3.—A girl, aged 5 years, contracted a muco-purulent conjunctivitis of a mild type very shortly after nursing a favourite cat, which was a farm-yard pet. In spite of treatment the conjunctivitis became chronic, and the submaxillary and sterno-mastoid glands on the same side became enlarged. When Lawson was called to see the child he found a mass of exuberant granulations occupying the greater part of the retrotarsal tissue and trespassing on the posterior edge of the tarsal plate. The clinical appearances, combined with the history and enlargement of the cervical glands, suggested the diagnosis of conjunctival tubercle, which was confirmed by bacteriological examination of sections from the local lesion and from the glands, the tubercle bacilli being of the bovine type.

Complete recovery followed removal of the infected parts and operation on the neck glands.

Philadelphia Pediatric Society.

April the 10th, 1917. The President, Dr. John F. Sinclair, in the Chair.

Non-specific Activity of Bacterial Vaccines.—Dr. John Kolmer.—Owing to the weight of laboratory investigations and evidence and the fundamental laws of specificity in immunity reactions, the therapeutic effects following the administration of a bacterial vaccine have been generally ascribed to the production and activity of specific anti-bodies, and any deviation from this current of thought has been generally received with a measure of scepticism and disapproval.

Since 1895, however, occasional laboratory and clinical reports have definitely indicated that a share of the good effects following the administration of a bacterial vaccine may be ascribed to certain non-specific and, as yet, ill-defined factors, among which the following may be mentioned: (*a*) Leucocytosis; (*b*) hyperpyrexia; (*c*) stimulation of antibody-producing tissues, and particularly the hæmopoietic organs; (*d*) mobilisation of proteolytic and lipolytic ferments which, according to the investigations of Jobling and his colleagues, may hydrolyse toxic protein molecules into lower and non-toxic forms and attack the lipoid-protein envelope of bacteria, thereby rendering them more liable to destruction; and (*e*) increase the amount of anti-ferments in the body fluids, which may inhibit the growth of bacteria or prevent them from elaborating leucocidins, aggressins, or other substances used by the bacteria for their protection.

Aside from the good effects occasionally noted in the treatment of certain infections with bacterial vaccine prepared of bacteria having no ætiological relationship with the disease, the administration of a bacterial vaccine appears to protect the immunised individual in some degree against other infections; a profound and favourable influence upon metabolism, with increased elimination of waste and gain in body-weight, are occasionally noted, and these non-specific efforts tending to improve the general condition may be as important as the production and activity of specific antibodies.

Bacterial Vaccines in the Treatment of Diseases of the Skin.—Dr. Jay F. Schamberg stated that with the introduction of new therapeutic measures in medicine there is a tendency on the part of some practitioners to excessive enthusiasm and extravagant claims, while the group of conservatives remain sceptical to the point of incredulity. Scientific conservatism in medicine is a desirable quality provided it is not carried to extremes. Vaccines have been used extensively in diseases of the skin, but no positive and definite measure of their value have yet been determined. In furunculosis vaccines exhibit their most constant and definite beneficial value, but they are not to be used to the exclusion of other methods of treatment, inasmuch as the foci of infection, whether in the teeth, tonsils, or elsewhere, must be eliminated. Formerly, one depended on hygiene, proper food, and tonics to increase the defensive powers for the individual against pus infection. Vaccines specifically strengthen the staphylo-opsonins, and thus lessen vulnerability to infection. In carbunculosis good results are likewise obtained, although not as constantly as in the case of boils. There are forms of pustular dermatitis which are favourably influenced by the use of vaccines.

Dr. Schamberg exhibited two photographs, illustrating a very remarkable result obtained with the use of autogenous vaccine in a case of sycosis of five months' standing that had resisted all methods of treatment. Two injections sufficed to produce a cure, and the patient's opsonic index was raised from 0·6 to 0·1. In 18 days the condition was completely cured, and remained so permanently. The patient immediately began to take on weight, and gained about 40 lb. in 2 months. Another case of sycosis treated at the same time also showed improvement almost to the extent of cure. In a number of other cases the results were much less favourable. Dr. Schamberg called attention to the fact that in the two cases referred to there had been infiltration at the site of injection in one case, and the formation of an abscess in the other case which he believed to be due to incomplete sterilisation of the vaccine.

In acne Dr. Schamberg used a vaccine composed of a stock acne bacillus with the addition of autogenous cultures of the staphylococcus of the colon bacillus. This selection of organisms was based upon complement fixation studies which had been carried out on acne patients by Drs. Strickler, Kolmer, and Schamberg. They had found that, with the acne bacillus as an antigen, positive complement fixations were obtained in 84 per cent. of acne patients. With the staphylococcus 64 per cent. of positives were obtained, and with the colon bacillus 63 per cent. The most logical vaccine would be one which was made up according to the individual complement fixation tests. The use of the ultra-violet rays, by inducing hyperæmia of the skin of the face, aided in bringing opsonin-laden blood to the area of infection. Dr. Schamberg had found acne stock vaccines to give disappointing results.

The use of tuberculin in lupus vulgaris and in other tuberculous skin infections had, in general, given disappointing results, although in certain cases of scrofuloderma striking improvement was exceptionally obtained.

In conclusion, Dr. Schamberg said that he had had far more failures than successes with vaccines in the treatment of skin diseases, but that occasional brilliant results encouraged him to use this method of treatment.

Use and Limitations of Vaccines in General Medicines.—Dr. M. H. Fussell.—The value of vaccines in human medicine is perhaps beyond estimation. The harm they have done is also a prominent feature in human medicine, not so much the harm they have done in any given case, or in any given series of cases, but because physicians are always ready and anxious to do what they can for their suffering patients.

It is the lack of accurate application of vaccine therapy, which seems to me is the harmful part of vaccine treatment in human medicine. The facts which must be borne in the mind of every practising physician in regard to vaccine therapy, are these:

(1) That vaccines are absolutely specific, that is, that a vaccine made from the bodies of a diphtheria bacillus are absolutely of no value in a disease caused by streptococcus.

(2) As a good working basis, the vaccine should be made from organisms obtained from the patient, that is, they should be autogenous vaccines.

(3) Every patient who receives vaccine treatment, should always have used the ordinary treatment which is considered proper for the condition.

The most useful application of vaccine in human medicine is in prophylaxis. Too much carelessness exists at the present time, both as to the manner of vaccination, and as to the care of the patient after he has been vaccinated. During the past year the writer has seen three cases of tetanus following vaccination, each one preventable, because they came from contamination of the vaccinated area after the patient had been vaccinated.

Next in value to the vaccination against smallpox, comes the vaccination against typhoid fever. On general principles, the use of vaccines in such a disease as typhoid fever, is contraindicated, and it seems to me that as yet their use is not to be recommended. In a disease like typhoid fever where the mortality rates differ so much in various series of cases, it is not entirely impossible to come to a positive conclusion as to the effect of this or that treatment, and enough cases have not been recorded to make the statistics of much value. It also seems to me that in such a disease as typhoid fever, where the patient needs all his defensive powers in order that he may not succumb to the disease, the use of such vaccines in the treatment of typhoid fever may be easily detrimental; reactions may be brought about by which the patient's resistence may be broken, and what might be otherwise a favourable case, may indeed be converted into a fatal one.

In a disease like rabies, where the mortality of the disease is about 100 per cent., anything which offers relief from this disease is a boon. Pasteur's vaccination against rabies has lowered the incidence of the disease to a very marked degree.

All observers are agreed that the use of vaccines in human medicine as a prophylactic is of the utmost value, and there is a consensus of opinions that in the therapeutic use of these preparations harm can be done, not only to the individual treated, but to the moral of physicians, who use a method which is potent occasionally, but which is very frequently not only harmful, but leads to haphazard methods of treatment In 1912, in the 'Journal of the American Medical Association,' Theobald Smith said of vaccine treatment: "From one of the most delicate problems, the injection of vaccines is being brought to the level of a patent medicine cure-all. Even with the greatest care in administration there is still plenty of empiricism bound up with the use of vaccines, as long as our knowledge of immunising and toxic qualities remains incomplete. The over-burdened physician is ready to substitute some other responsibility and authority for his own, and commercial interests are much too ready to assume it. It is invariably the rule in the proper treatment of any diseased condition to search for the cause and if possible remove it. Then treat the residual condition, if there be any, in such a manner as seems proper. The theory and practice of vaccination in infectious diseases is best carried out by making a culture from the site of the infection, and then having a vaccine made from that culture. This can be done where a laboratory is accessible, and always should be done where it is at all possible. In that way one is sure of at least using an organism which is at the seat of the lesion. However, every autogenous vaccine is not of necessity a specific. For instance, a vaccine made from the nose is not of necessity a specific against infectious rhinitis.

Tuberculin in the hands of the general practitioner may do harm to his patients rather than good. If it is desired to treat a tuberculous patient with tuberculin, he had better be put in the hands of one skilled in such work. There are certain useful applications for vaccines, however, in general medicine, among these, applications in skin diseases, described by Dr. Schamberg; in certain cases of middle-ear diseases, a properly prepared autogenous vaccine occasionally gives good results, but nothing is more unscientific and likely to lead to unfortunate failure than the indiscriminate use of stock-mixed vaccines in these cases of middle-ear disease.

It seems to me that the treatment of infectious colds with certain stock vaccines comes under dangerous and futile medications.

To conclude, then, autogenous vaccines in human medicine are practically prophylactic. They bear curative value in certain conditions like skin diseases and ear diseases and local suppuration and in some chronic conditions. It must never be forgotten, that a vaccine to be of any value or as a therapeutic agent, must be made of the same organism causing the disease in the affected individual, and this knowledge can only be obtained by careful cultural methods, applied to the diseased individual. Without this previous knowledge of the infecting organism, all use of vaccines is certainly to be interdicted.

May the 8th, 1917. The President, Dr. John F. Sinclair in the Chair.

Congenital Unilocular Cyst of the Liver (Hæmangioma): Report of a Case with a Brief Review of the Literature.—Dr. Harry Lowenburg.—The patient was a male, aged 19 months. The chief complaint was abdominal distension, extreme general weakness, gradual emaciation and pallor. Both parents were aged 23 years, healthy and married three years. First pregnancy. No miscarriages. Both parents gave negative Wassermann reactions.

Previous history.—Only child. Delivery normal. Birth weight said to have been 8½ lb. Breast-fed up to five months. Mixed feeding from this time up to one year when it was weaned. Dentition inaugurated at eight months. Somewhat tardy in this respect as to further development. No other illnesses recorded except occasional colds and attacks of fever of short duration and one attack of tonsillitis.

History of present illness and physical examination.—The mother stated that the abdomen had always been large and that it seemed to be getting larger. The child was extremely pale. He had never seemed strong but yet never seriously ill. He was very weak. His fontanelle was open. His head was square. Head sweating was noted. He had never walked. His legs were thin. His intelligence was normal. His ribs were slightly beaded. Weakness had been progressive. He vomited occasionally. There was no jaundice, no œdema of feet. Pulse feeble and rapid. Respiration somewhat hurried. Passed plenty of urine. Mucosæ pale. Heart, lungs, and extremities negative. There was no adenopathy, nor were hæmorrhoids present.

The abdomen was enormously distended. The umbilicus pouched. A large firm mass which occupied almost the entire abdomen and which seemed to spring from the right side corresponding to the normal situation of the liver was felt. Its lower edge was firm and extended to the brim of the pelvis. Thence it skirted upwards towards the left and disappeared under the left costal margin. It was not sensitive to touch. Its surface seemed smooth. Fluctuation could not be demonstrated. There was fixed dulness in the flanks. The superficial veins were distended.

Four examinations of the urine presented a specific gravity varying between 1010 and 1030. Albumin was found in faint traces three times and there were a few hyaline casts and some epithelium and mucus. Bile was absent.

Blood.—Hæmoglobin (Talquist) 25 per cent. Reds 2,070,000, cells pale, no poikilocytosis; whites 8500. Polymorphonuclears 41 per cent., lymphocytes 52 per cent.; large mononuclears 6 per cent.; transitionals 1 per cent. The red cells were pale. The Wassermann test was negative.

The X-ray examination showed a large mass filling the entire right side of the abdomen down to the brim of the pelvis and also a good part of the left side. From its situation it suggested a tumour of the liver. Its outline corresponded practically to that made out by physical examination. From the varying degrees of intensity of the shadows throughout the mass, it suggested the possibility of cystic degeneration.

Diagnosis.—Congenital tumour of the liver, probably cystic in character.

Treatment and subsequent course.—Exploratory incision advised. Operation by Dr. John B. Deaver. The following notes were kindly sent by Dr. Bowers of the Mary Drexel Home, where the operation was performed:

"Incised upper right rectus. Large tumour presented. Tremendous cyst of liver filling entire right side. Tapped tumour with trochar and canula. Dark, bloody (changed) fluid removed. Tumour incised. Large amount of bloody fluid escaped. Walls of cyst one inch thick and did not bleed. Piece of wall removed and sent to laboratory. The cyst was unilocular. The walls were stitched to the abdominal wall and the cavity packed with gauze."

The following report was made by Dr. Pfeiffer, pathologist to the German Hospital:

"Fluid from cyst. Colour, dark red. S. Gr. 1018. Many red blood-corpuscles. No bile nor bile pigments. No bacteria nor parasites."

Examination of tissue from cyst wall.—Tissue friable, of brown colour. suggesting membranous lining.

Dr. Lowenburg then reviewed the literature that he had found bearing on non-parasitic cysts.

Case of Facial Paralysis possibly due to Brain Tumour.—Dr. E. W. Rodenheiser.—The patient was a coloured girl, aged 2 years, with a dull, listless expression, and was rather poorly nourished and developed.

She was brought to the hospital with a right-sided facial paralysis first noticed in June, 1916.

There was nothing definite in the family history. The paralysis involved all the facial muscles of the right side, the external rectus, the right side of the tongue and apparently some of the throat muscles.

The eye grounds were normal, ears negative. Patient had a vertical nystagmus of both eyes, internal strabismus of right eye, occasional swaying of the head and vomiting, apparently headache, and was quite irritable.

X-ray showed no intra-cranial tumour. Blood picture normal. Wassermann reaction negative. Spinal fluid was under no pressure, and normal on examination.

The course in the hospital showed a progressive general weakness until death seven weeks after admission.

The pathological findings were (*a*) Peritoneal adhesions; (*b*) tuberculous mesenteric glands; (*c*) tuberculoma of pons.

Some Features of Cerebro-spinal Meningitis in Children.—Dr. A. G. Mitchell and Dr. W. W. Falkener.—Since the first distinctly recognised epidemic in this country, over 100 years ago, the disease has been epidemic about every ten years, and more or less prevalent for the following three years.

Reserving for later discussion the examination of the spinal fluid, let us determine the symptoms and physical signs which should influence us to perform the diagnostic lumbar puncture. If the symptom-complex were always complete, diagnosis would be comparatively easy. Unfortunately, typical onset is not always definite and symptoms suggestive of meningeal irritation are not in sufficient evidence to be striking. Furthermore (and this point needs such emphasis that it will be dilated upon later), many of the symptoms are often absent, and certain others are not of diagnostic importance in infants. This is worthy of consideration when we know that about 50 per cent. of patients suffering from meningococcus meningitis are under five years of age, and 20 per cent. under one year of age.

Any acute infection in children may begin with the same train of symptoms which are due, in part at least, to the imperfectly developed and therefore unstable and more easily influenced nervous system of the child as compared to the adult. This group of symptoms includes hyperpyrexia, vomiting, headache, convulsions, and mental disturbance as evidenced by drowsiness or delirium. Headache and convulsions are the two of this syndrome that might be expected to predominate in a disease that involves primarily the brain and spinal cord. Indeed, this is the case, and in most epidemics these symptoms are among the initial ones.

A careful study of the case histories of patients admitted to the Children's Hospital this year shows that the early symptoms were present in the following order: Fever, vomiting, drowsiness, convulsions, rigidity of the neck, headache, chill, tremor, and irritability. The frequent combination of fever and vomiting was notable.

The first examination reveals certain suggestive things to the careful observer. Two of the physical findings (hyperæsthesia and rigidity of the neck) have already been called to his attention if the child has an intelligent mother or caretaker. Even as early as a few hours after the onset other signs of cerebro-spinal irritation such as a positive Kernig's sign or inability to extend the leg on the thigh when the latter is flexed on the abdomen, and Babinski's phenomenon are frequently present in normal babies under eighteen months. Ankle clonus also may frequently be elicited in babies, although it certainly has pathologic significance if persistent.

A *tache cérébrale,* to be of value even as a concomitant physical finding, should be distinct and broad. Stroking of the abdomen in almost any baby will develop what might be called a mild or moderate tache.

Involuntary rigidity of the neck is, however, certainly not a normal finding in a child of any age, and is present in most cases of cerebro-spinal meningitis during the early stage.

There is great difference in the severity of the infection. Severe fulminating cases occur at the beginning and at the height of the epidemic. Some patients may die in such a few hours that they develop few symptoms except headache and then coma. Others may have such a mild infection as to develop diagnostic features observable only on close inspection. It should be emphasised that, in babies especially, the diagnosis is often difficult. We have seen three infants under 1 year of age, in whom the spinal fluid showed meningococci, whose only deviation from the normal consisted in a tense, bulging fontanelle, fever, and mental apathy.

To recapitulate them. The child on whom we are justified in performing lumbar puncture will present a certain picture consisting in abrupt onset; fever; almost certainly vomiting and rigidity of the neck and hyperæsthesia; mental apathy or irritability; perhaps convulsions or a chill; and, usually, if a baby, increased tension of the fontanelle. Additional symptoms should, of course, be looked for, but not waited for. Lumbar puncture, especially during an epidemic, may be called for with less evidence than the symptoms given above. This is especially true if the puncture can be done under strict aseptic precautions and with close observation of the effect of withdrawal of fluid, realising that it is a procedure not devoid of danger. "When in doubt, puncture" is an axiom which suggests itself when we consider the frequency of the occurrence of cases with extreme mildness of the symptoms present and absence of other well-defined symptoms.

The first fluid is to be very carefully studied, as the meningococci may not be found after the first serum injection given at this time. Its chief characteristics are—that it does not reduce Fehling's solution, contains albumin and globulin, has a cell-count decidedly increased over the normal ten to the cubic millimetre, and contains Gram-negative, intra- and extra-cellular, biscuit-shaped diplococci. The demonstration of these organisms by smear (or culture) is the definite diagnostic *sine qua non.*

The use of the bacteriolytic serum has materially reduced the mortality, and has furthermore done much to lessen the unfortunate and distressing sequelæ in the survivors. It is undoubtedly not as specific as we could wish. Failure to cure depends mainly on two factors; the first of these—early administration—has already been mentioned. We can conceive of no better way of pointing out the moral of using the serum early than presenting Flexner's often quoted statistics: Injected before the third day, 14·9 per cent. mortality; injected from the fourth to the seventh day, 22 per cent. mortality; injected after the seventh day, 36·4 per cent. mortality.

The second cause for failure of serum therapy probably lies in the absence in the serum of sufficient antagonistic antibodies for the particular strain of meningococci infecting the patient. Gordon, in England, and others have done work to prove that the meningococcus is divided into, at least, four different strains, three of which are definitely agglutinable, and the fourth comprising a group of, as yet, unagglutinable organisms. This multiplicity of strains is obviated to a certain extent by the use in the preparation of serum of meningococci obtained from many different sources, and explains why, at times, change in the serum used is followed by beneficial results.

Persistence of fever, continued cloudiness or viscosity of the spinal fluid with failure to reduce Fehling's solution, meningococci still present in stained smear, and continued leucocytosis, all indicate the necessity of further treatment. Rigidity is one of the last symptoms to disappear, and its continuance does not in itself necessitate puncture or serum injection.

In conclusion, we wish to emphasise two facts which have impressed us during the last three months.

Cerebro-spinal meningitis is curable in direct ratio to the promptness of treatment with antimeningococcic serum.

While at all times we should be careful to examine thoroughly any sick child, signs of cerebral and spinal irritation are to be especially sought for at the first inspection, during periods of epidemics of cerebro-spinal meningitis. This is all the more urgent when the illness has been suddenly ushered in by high fever, unexplained vomiting, drowsiness, convulsions, or intense headache.

Exophthalmic Goitre in a Boy aged 13 years.—Dr. W. F. Johnston. The family and social history presented only two points—namely, that the father had died of pulmonary tuberculosis, and the only disease that the child had ever contracted was measles.

Five years ago bulging eyeballs were noticed. At this time the thyroid began to enlarge, and the boy complained of palpitation and dyspnœa. Examination revealed a fairly well-nourished child, whose expression was somewhat dull, but was modified by the prominence of the eyeballs. Mentality was somewhat impaired. The eyes were prominent. The pupils reacted equally to light and accommodation. There was widening of the palpebral fissure. The thyroid gland was symmetrically enlarged. Examination of the heart negative, and no increase in cardiac dulness. Pulse rate, 78. Hands showed a fine tremor.

Dr. Johnston said that, while this case was not so rare at the age of thirteen as it would have been at eight years when it first came under observation, it was rather unusual because of the patient's sex, since the disease was three times as frequent in girls as in boys.

The symptoms of Graves's disease were practically the same in the child as in the adult, and often resembled those of chorea. The disease was rarely fatal in childhood, and usually responded readily to treatment. The various therapeutic measures available aside from those mentioned were: X rays, galvanism, thyroidectin, adrenalin, and thymus extracts, and, in exceptional cases, surgical procedures are indicated.

Abstracts from Current Literature.

Surgery.

Points in the operative treatment of hare-lip and cleft palate ('*Glasg. Med. Journ.*,' 1917, I, *p.* 16).—**J. H. Nicoll** advocates early operation. In cases of simple hare-lip, operation may be advantageously done within the first few days of life. In cases of alveolar hare-lip, the first stage of the operation (that concerned with the cutting and wiring in position of the tilted or projecting intermaxillary bone) should be undertaken similarly early, and the second stage (that concerned with the soft tissues of the lip) whenever the union of the alveolus is complete. In cases of cleft palate also, the earlier operation is performed the better. Where hare-lip and cleft palate occur together, the hare-lip should be treated before the palate. The great source of failure in cleft palate operations is the lack of blood supply in the pared and opposed margins of the flaps. Union of the hare-lip, and particularly of the alveolar hare-lip, very materially increases the blood supply of the palate. In unilateral alveolar hare-lip the chief difficulty is to obviate the persistence of the flattened-out nostril. The temptation is to extensively undercut and "free" the ala and cheek, but a much better result ultimately is obtained if the flattening of the nostril is corrected in large degree by so cutting and wiring the intermaxillary that the tip of the nose and the nasal septum are distinctly distorted to the deformed side. In this way the flat nostril is closed, partly by displacing the inner (mesial) wall, and partly by displacing the outer (alar) wall. Much less under-freeing is necessary, and much less subsequent scar distortion occurs. In cases in which considerable under-freeing of ala, lip, and cheek is necessary, the subsequent contraction of the raw surface and its adhesion to the underlying bone tend to reproduce the flattening of the nostril and to render the lip immobile, board-like, and distorted during facial movements. These ill-results may be avoided by the insertion of tin-foil between the soft parts and the periosteum. Mucous epithelium lines the raw tissues opposed to the surfaces of the tin-plate, so that these do not adhere on its withdrawal, but form part of the buccal cavity. The median position of prolabial juncture should be aimed at. An oval tube worn in the nostril for several months has a remarkable effect in moulding the deformed nostril and preventing secondary flattening. Four excellent photographic illustrations are appended. J. ALLAN.

Congenital hypertrophic spastic stenosis of pylorus and Rammstedt's operation ('*La Pediatria*,' 1916, XXIV, *p.* 257).—**H. K. Hirschfeld** describes three cases, aged 3, 3½, and 4 weeks, in which this operation was performed with successful result. Rammstedt's method is to make a longitudinal incision into the muscle of the pyloric ring down to the mucous membrane without opening the orifice. The edges of the wound are not sutured, the pylorus is dropped back, and the abdominal wall closed. Hæmorrhage is slight and easily arrested. The operation is thus very simple and takes little time, and hence can be resorted to in infants whose general condition is unsatisfactory.

VINCENT DICKINSON.

Operative cure of congenital pyloric stenosis; thymic death (*'Journ. Amer. Med. Assoc.,'* 1917, LXVIII, *p.* 1543).—**J. L. Ransohoff** and **P. G. Woolley** report the case of an infant, aged 10 weeks, who had a Rammstedt operation successfully performed. Recovery was rapid and uneventful, but in the middle of the seventh month the child was found, without warning, dead in bed, the cause for which was an enlarged thymus. The authors draw attention to the association of an enlarged thymus with congenital pyloric stenosis. T. R. WHIPHAM.

Resection of an intussusception in a child of 7 months: Recovery (*'Med. Journ. Austral.,'* 1917, I, *p.* 30).—**P. L. Hipsky.**—Three weeks after the patient left the hospital where operation was performed sixteen days earlier, the child had gained a pound in weight. The case is very rare, considering the age of the child. F. R. B. ATKINSON.

Intestinal obstruction in children, with special reference to intussusception (*'New York State Journ. Med.,'* 1916, XVI, *p.* 357).—**E. W. Peterson** briefly refers to the causes (congenital and acquired) of intestinal obstruction in children. Intussusception is by far the commonest cause of acquired obstruction in early life, and 70 per cent. of all cases occur during the first year of life. Of rarer causes of obstruction the author has encountered one case of mesenteric thrombosis in an infant, with eighteen inches of gangrenous obstructed jejunum; one case of acute angulation and obstruction, caused by a congenital band running from the head of the cæcum to the jejunum; one case of plum-stone impaction producing obturator obstruction in a small girl who had eaten heartily of plums and had swallowed the stones; also a case of pressure obstruction from an abdominal abscess, probably arising from a suppurating mesenteric gland. He discusses the symptoms and differential diagnosis of intussusception, and emphasises the following points: (1) Intussusception in infancy presents a rather uniform and characteristic picture, and should be recognised without difficulty; (2) aerohydrostatic and mechanical measures can succeed in but a limited number of cases. Such treatment is not without danger; (3) early laparotomy, with manual reduction of the invagination, is the simplest, the safest, and the most successful method of treatment.

J. ALLAN.

An unusual case of intestinal intussusception (*'Journ. Amer. Med. Assoc.,'* 1917, LXVIII, *p.* 1548).—**F. A. Van Buren** reports the case of an infant, aged 5 months, who was admitted into hospital in a dying condition with signs of intussusception. No operation could be performed, and at the post mortem a double intussusception was found, of the ileum into the cæcum for a distance of about 10 cm., and of the distended descending colon over the collapsed sigmoid for about the same distance. It was decided that the ileo-cæcal was the primary and that purgatives had produced the second. T. R. Whipham.

Umbilical polyp (*'Journ. Amer. Med. Assoc.,'* 1917, lxviii, *p.* 965).—**H. R. Tarbox** reports a case of umbilical polypus or remnant of the omphalomesenteric or vitelline duct in a girl, aged 12 years. Since in these cases there is a possibility of the polyp being attached to a Meckel's diverticulum, or connected with one, with subsequent danger of intestinal obstruction, probably the wisest thing to do is to dissect down to the attachment with the intestine, and if a Meckel's diverticulum is found, to tie it off at the intestinal junction. T. R. Whipham.

Metastatic abscesses following acute suppurative appendicitis (*'Arch. de Méd. des Enf.,'* 1917, xx, *p.* 143).—**A. Androutsellis.**—Death in acute suppurative appendicitis is almost always due to acute septicæmia from localised suppuration, and metastatic abscesses as in the following two cases are rare. Case 1: Boy, age not stated. Onset of appendicitis September 13. Operation September 25. Abscess in soft parts of right thigh September 29. Similar abscess in right arm September 30. Death October 1. Case 2: Boy, aged 9½ years. Onset of appendicitis January 24. Operation January 30. Abscess over upper end of left tibia February 3. Death February 5. No autopsy could be performed in either case, so that the presence of visceral infarcts could not be ascertained.

J. D. Rolleston.

Extreme fæcal impaction (*'Journ. Amer. Med. Assoc.,'* 1917, lxix, *p.* 283).—**E. A. Watson** reports the case of a girl, aged 13 years, who was born with an imperforate anus, the rectum opening into the vagina. She was operated upon when eight years of age, and the anus was established in the normal position. When seen the patient had a large tumour in the abdomen, which was diagnosed as a uterine fibroid, but at operation was found to be a fæcal impaction. Altogether 8¾ lb. of fæcal matter was removed. The patient died seventeen days later. T. R. Whipham.

Diaphragmatic hernia (*'Journ. Amer. Med. Assoc.,'* 1917, lxviii, *p.* 1692).—**G. F. Koehler** reports the case of a girl, aged 12 years, who, two years previously, had an empyema on the left side. She presented signs of a gastric ulcer, which was successfully operated upon. Three months later she suddenly began to vomit and have attacks of sharp pain in the epigastric region, and radiating into the left chest. X-ray plates showed the presence of a diaphragmatic hernia. At the operation the stomach was almost entirely within the thorax, being twisted on itself, and the omentum was adherent to the pericardium. Several costal cartilages had to be cut through before the parts could be reduced. The patient made a good recovery. T. R. Whipham.

A case of diaphragmatic hernia (*'Am. Journ. Dis. Child.,'* 1917, xiii, *p.* 252).—**T. C. McCleave.**—A baby, aged 3½ months, had been subject since a fortnight after birth to recurrent attacks of cyanosis, dyspnœa, and severe pain, relieved by a motion or the expulsion of gas. The attacks became increasingly severe, and when seen by the writer the infant was almost moribund. The heart was found far over on the right side of the chest, breath sounds were audible only over the upper part of the right chest, and the abdomen was much retracted. A skiagram showed the presence of gas in the left side of the thorax. A diagnosis of probable diaphragmatic hernia was confirmed by a skiagram taken after a barium enema. A third skiagram taken after a barium meal showed almost all the intestine above the diaphragm. Operation was performed a few days later, when an oblique slit about 1 in. long was found in the diaphragm close to the penetration of the great vessels and œsophagus. The intestine was replaced, and the defect closed. The baby died a few hours after the operation. J. D. Rolleston.

Abdominal hæmorrhage of ovarian origin (*'Journ. Amer. Med. Assoc.,'* 1917, lxviii, *p.* 1160).—**E. Novak** reports the case of a girl, aged 15 years, who was suddenly taken ill with symptoms suggesting appendicitis, the only point against that diagnosis and indicative of internal hæmorrhage being the patient's marked pallor. At the operation a large intraperitoneal hæmorrhage was found, the source of which was a small follicular cyst in the right ovary which had ruptured. At the same time a small ectopic pregnancy of long standing was discovered in the left tube. As the patient's condition was critical the cyst cavity was merely sewn up. A good recovery resulted. T. R. Whipham.

Oxycephalus (*'Journ. Amer. Med. Assoc.,'* 1917, lxviii, *p.* 1979).—**A. J. Bedell** describes three cases of oxycephaly, one of which, a boy, aged 8 years, was operated upon, a large subtemporal decompression being made on the right side. The patient died in a few hours, but nevertheless the author considers that the condition is amenable to surgical relief. He has only been able to find records of six other cases having been operated upon, but with what results he does not state. T. R. Whipham.

A ganglioneuroma of the spheno-maxillary fossa (*'Glasg. Med. Journ.,'* 1915, ii, *p.* 98).—**J. S. Dunn.**—The patient from whom the tumour was removed was a boy, aged 3 years, who had previously been quite healthy. Three weeks before operation swelling was first noted on the right temple, just behind the frontal process of the right malar bone. It was apparently of the size of a marble, and had a cystic feeling. At the operation it was found that the tumour was entirely covered by the temporal muscle, and when the latter was withdrawn it was seen to be encapsuled. When removal was attempted it was found that the tumour lay directly on the bare bone of the wing of the sphenoid, there being no intervening periosteum. The upper part was separated off readily enough, but a prolongation was found to extend downwards into the spheno-maxillary fossa. This part was ligated as low as possible, but the tumour could not be removed intact. It was remarked after removal that there had been a fairly complete capsule. The contents resembled grey matter of the brain. The microscopical examination and results are detailed in full. The exact origin of the tumour could not be determined, in absence of a more complete dissection. The nearest ganglionic structure would be the spheno-palatine ganglion, in relation to the superior maxillary division of the fifth cranial nerve. This ganglion, like all the others on cranial nerves, contains elements belonging to the sympathetic nervous system, a fact which would be so far in favour of attributing the tumour to that origin.

J. Allan.

Intracranial telangiectasis ('*Am. Journ. Med. Sci.*,' 1915, CL, *p.* 565).—**E. Sachs** operated on two cases in boys, each aged 10 years. One died and the other improved, though it was too early to express an opinion as to the ultimate result. The clinical symptoms are quite definite, viz., (1) attacks of Jacksonian epilepsy occurring at long intervals in non-syphilitic young persons; (2) unconsciousness of long duration; (3) no evidence of increased intracranial pressure; (4) a very slow progress of symptoms; (5) telangiectases on the head and face. J. D. ROLLESTON.

Apparent recovery after operation for cerebellar tumour ('*Arch. of Ped.*,' 1915, XXXII, *p.* 727).—**Langley Porter** describes a case in a schoolgirl, aged 11 years. Mid-frontal and vertical headache was first complained of. On examination lateral and rotatory nystagmus was found. The gait was ataxic, with a tendency to fall towards the right. There was marked inco-ordination of the right arm. The discs were swollen to the extent of $3\frac{1}{2}$ to 5 diopters. The chin was held towards the right shoulder. The Wassermann and luetin reactions were negative. There were no signs of tuberculosis. A right cerebellar tumour was diagnosed. The operation was performed in two stages at a week's interval. A trocar introduced into the right cerebellar lobe met with marked resistance, and further investigation disclosed a cyst measuring 4·8 cm. in diameter occupying the position of the nucleus dentatus. The cyst was opened and was found to contain clear fluid. As cysts are usually benign the cyst was removed. Three days after operation the nystagmus and headache had disappeared. Three weeks later the staggering gait had disappeared, and in three months after the operation the discs were normal and vision good. C. ROLLESTON.

Hereditary deforming chondro-dysplasia; multiple cartilaginous exostoses ('*Journ. Amer. Med. Assoc.*,' 1917, LXVIII, *p.* 502).—**A. Ehrenfried** reviews the American literature on this subject, which is somewhat meagre, and includes only seventy-one recorded cases. To these he adds twelve of his own, and concludes that hereditary deforming chondrodysplasia can no longer be considered a rare affection in America. The disease is a distinct clinical entity, whose manifestations are now well defined. The work which has been done on its pathology points definitely to a disturbance in the bone-forming cartilage as the underlying cause. The hereditary nature of the disorder, which has been demonstrated, gives it an individuality which makes investigation interesting.

T. R. WHIPHAM.

Congenital kyphosis ('*Edin. Med. Journ.*,' 1916, I, *p.* 93).—**D. M. Greig** describes a case of congenital kyphosis associated with a cervical rib and a congenital high scapula in a child aged $2\frac{1}{2}$ years. Brief references are made to other recorded cases somewhat similar in nature.

J. ALLAN.

Congenital superior radio-ulnar synostosis ('*Edin. Med. Journ.*,' 1917, I, *p.* 281).—**D. M. Greig** records a case in a boy, aged 4 years, born of British parents in the colonies. There was nothing unusual about the birth, and the child appeared to be normal, but an hour or two after birth took a severe fit. He was late in walking and very late in talking, and is now obviously mentally deficient. Physically he is fairly developed. He is restless and talkative, devoid of shyness, and articulates so badly that a stranger cannot understand what he says.' He has tight epicanthic folds, that on the right being more marked than on the left. He has narrow anterior nares and a high palate, and an under-hung lower jaw. He has some facial paralysis of the left side, so that when he opens his mouth the lips on the left side droop. There is some paresis of the left orbicularis oris. The left pinna is rather smaller, and the concha is larger and more simple than on the right. He has a curious warty rash on the face, and pink erythematous hands. He walks downstairs like an infant, and does not seem to use his left leg as he does his right. Both forearms are fixed midway between pronation and supination, and any deviation from this position cannot be effected. A radiograph shows fusion at the upper extremity of the radius and ulna, while the lower radio-ulnar articulations appear normal. Operation is precluded in this case, because of the mental deficiency, and in any case operative interference is seldom satisfactory. A bibliography is appended. J. ALLAN.

Fracture of the forearm in children (*'Interstate Med. Journ.,'* 1917, XXIV, *p.* 547).—**J. Grossman** states that Colles' fracture occurs rarely in infants and children. Where, for any length of time, infants and children refuse to use their forearms, after having sustained an injury, fracture should be suspected. Fractures may be present even though the cardinal signs of fracture, crepitus, false mobility, deformity, are absent. These fractures are usually of the subperiosteal variety. "Pencil" tenderness—*i. e.* tenderness localised at the site of the fracture, is the diagnostic feature in these cases. Epiphyseal separation of the radius occurs with fair frequency. This should be looked for in all cases with injured forearms, and undoubtedly will be found more often. Plaster-of-Paris bandages are far more efficient than splints, and should be employed in all cases of fracture. Proper immobilisation is as important as proper reduction in order to obtain a successful issue. Shorter periods of immobilisation, early massage, and passive movements should be employed in treating fractures occurring in children. T. R. WHIPHAM.

An unusual fracture of both bones of the leg (*'Journ. Amer. Med. Assoc.,'* 1916, LXVII, *p.* 1293).—**C. Ryttenberg.**—A boy, aged 5 years, was knocked down by a glancing blow from the mudguard of a motor-car. He complained of pain above the left ankle and refused to stand on the leg; otherwise there were no signs of injury—no swelling, no ecchymosis, and no crepitus. A fracture was not diagnosed until an X-ray plate showed an oblique incomplete fracture of the tibia in the lower third, extending from the inner side upward and outward to within an eighth of an inch of the outer side, and a greenstick fracture of the fibula.

T. R. WHIPHAM.

Orthopaedics.

Prevention and treatment of the deformities in anterior poliomyelitis (*'Med. Rec.,'* 1915, LXXXVIII, *p.* 439).—**J. Grossman.**—To prevent foot-drop, the foot should be kept at right angles to the leg by resting the soles against a box covered with a blanket and placed against the foot of the bed, or by the use of a Volkmann's splint or plaster of Paris bandage. The latter treatment applies also to the knee and hip. After the tenderness is gone, massage daily for fifteen minutes, electricity (static) 5–10 minute *séances* thrice weekly, and muscle-training should be employed. Passive movement should be adopted first, followed by the same movement against slight resistance. Fixed deformities should be overcome by forcible stretching and then application of plaster of Paris bandages or splints. If the contracture be too powerful, tendon lengthening or myotomy with subsequent bandaging should be adopted, followed by operation. In cases of lateral curvature of the spine, forcible correction and retention by a Kleinberg brace or Abbot jacket is the best treatment. Operations are performed to correct any deformity, to improve the muscle function by transplantation of a sound muscle or tendon and should not be undertaken under two years after the onset of paralysis, and to secure stability of useless joints. Arthrodesis is one of the methods used and should not be done in children under 14 years of age. Astragalectomy has given good results. Osteotomy is often of value, and in foot-drop the silk ligament suspension operation is of especial use. Nerve-grafting has given encouraging results. F. R. B. Atkinson.

Prevention and limitation of deformity in infantile paralysis ('*Therap. Gaz.*,' 1916, xxxii, *p.* 687).—**A. Cohn** reaches these conclusions: (1) Importance of early and proper diagnosis; (2) advisability of consultation with an orthopædist; (3) value of lumbar puncture as an early procedure; (4) importance of absolute rest; (5) value of muscle training and muscle re-education; (6) massage, hydrotherapy, electricity and baking are of benefit when properly co-ordinated and carried out jointly with one another; (7) necessity of the physician being able to give proper instructions when desiring to have a brace made; (8) necessity of proper care of braces under physician's observation; (9) operative procedures as last resort after waiting several years, or because of lack of treatment or improper treatment; (10) muscle and tendon transplantation is the operation of choice wherever possible. J. Allan.

Surgical treatment of anterior poliomyelitis ('*Med. Journ. Austral.*,' 1916, ii, *p.* 429).—**W. Kent Hughes.**—*Acute stage:* Absolute rest. The body and legs should be lightly bandaged to a double Thomas' splint, with head and arm extensions. All the muscles should be placed in a position of physiological rest. *Final stage:* Tendon transplantation. The operation is described. F. R. B. Atkinson.

The operative treatment of brachial plexus paralysis ('*Journ. Amer. Med. Assoc.*,' 1916. lxvi, *p.* 876).—**W. Sharpe,** in a long paper, advises that in cases of total paralysis of the arm operation should be undertaken when the child is 1 month old for the following reasons: (1) The child will stand the operation at that age better than at an earlier date, and as well as at any time several months later. Little, if any, anæsthesia need be used, and in most operations on children under 1 year of age the danger of the anæsthetic is the greater risk; (2) the earlier the anastomosis of the nerve-roots the more perfect the union of the nerve-fibres, and consequently, a greater improvement ultimately; (3) the earlier the operation the less the formation of fibrous tissue; (4) at the age of 1 month there is little or no retraction of the nerve-ends. T. R. Whipham.

The results of cranial decompression in selected types of cerebral spastic paralysis due to hæmorrhage ('*New York State Journ. Med.*,' 1916, xvi, *p.* 475).—**W. Sharpe** reports on the operative treatment of 219 selected cases (out of 954 cases) of spastic paralysis showing intracranial pressure both by an ophthalmoscopic examination and the measurement of the pressure of the cerebro-spinal fluid at lumbar puncture. Operation is only undertaken in those cases of spastic paralysis giving a history of difficult labour with or without instruments, and upon opthalmoscopic examination, the definite signs of increased intracranial pressure are to be seen upon the fundus of the eye, and confirmed by the measurement of the pressure of the cerebro-spinal fluid at lumbar puncture, *i. e.* only those cases of spastic paralysis which show definite signs of increased intracranial pressure, whether this condition is associated with impaired mentality or whether the size of the head is unusually small or unusually large; if, in these latter cases, there is an increased intracranial pressure, then that pressure should be relieved in the hope that the spasticity will be lessened, and the mentality be improved. Naturally, the most satisfactory and desirable patients for operation are the ones with no impairment of the mentality, but these patients are rare when there is intracranial pressure present; much more commonly do we find a more normal mentality in those cases of lack of development and malformation of the pyramidal tracts, unless very extensive. Further details regarding the cases selected and the method of procedure adopted are given. The after-treatment consisted of the routine orthopædic treatment which the patients had had before the operation; the correction of deformities by tendon lengthenings, or merely stretchings of the contracted muscles, the maintenance of corrected positions through the employment of specially adapted braces, and skilled massage, particular attention being given to the weakened and over-stretched muscle groups; the usual systematic course in muscle training has been carried on as before the operation. The results from cranial decompression have been satisfactory—not only as regards a lessening of the spasticity, but as regards a definite amelioration of the mental condition of the patient. The operation is by no means a cure, and possibly the improvement in the selected cases is only a temporary one. But from the pathology of these selected cases operated upon and the general continuous improvement which has resulted and is still progressing, the author feels justified in making a report in the hope that it may throw some light upon the treatment of this very pitiful condition. J. Allan.

Scoliosis accompanied by pressure paralysis of the lower limbs (‘*Journ. Amer. Med. Assoc.,*’ 1916, lxvii, *p.* 803).—**J. Ridlon** reports two cases in which a motor spastic paralysis of the lower limbs was associated with, and apparently depended upon, scoliosis. The paralysis in both cases was similar to that seen in tuberculous spondylitis. The first case was a girl, aged 11 years, in whom a spinal curvature had been noticed for some time. There was a marked lumbar curvature to the right, with considerable rotation, and a slight dorsal curvature in the opposite direction, which showed a marked rotation deformity on bending forward. The patient was treated by daily exercises, and a leather corset over a plaster torso. At the end of a year a skiagram showed that the curvature had increased, and a year later the gait was spastic, especially in the right leg, the reflexes were exaggerated, and ankle clonus and the Babinski’s sign were present. The patient was placed on a convex gas-pipe stretching frame, and at the end of four months the reflexes were normal, the spine straighter, and the paralysis had disappeared. The second case was a girl, aged 16 years. She had at birth a spina bifida in the upper dorsal region, which was treated with iodine injections. She had never been strong, and there was a destruction of the bodies of the fourth to seventh dorsal vertebræ, with marked curvature to the left as well as antero-posteriorly. A poroplastic cast and extension were applied, but the legs became paralysed and spastic. A gas-pipe frame was then employed, and at the end of six months the patient had regained voluntary control of the legs, but the reflexes continued exaggerated.

T. R. Whipham.

The evolution of osteochondritis deformans coxæ juvenilis (‘*Journ. Amer. Med. Assoc.*,’ 1916, LXVII, *p.* 658).—**A. H. Freiberg** reports two cases of this disease which is apt to be mistaken for tuberculosis of the joint. The affection begins usually prior to the 8th or 9th year of life with a characteristic flattening of the capital epiphysis of the femur and develops in adolescence into a mushroom deformity of the upper end of the femur It appears to be a chronic infectious process of a secondary nature, the primary focus being possibly the tonsil. It is probably a mistake to assume that because the symptoms are of a mild character and recovery with good movement of the joint may be expected, mechanical protection is unnecessary or unimportant. There is reason to believe that the terminal deformity is due to weight-bearing and motion as much as in tuberculous disease. So far no cases have been continuously followed by Röntgen-ray observations for a long enough time to determine what the truly terminal deformity really is, or to what extent it may change during the later years of adolescence and in adult life.

T. R. Whipham.

Treatment of tuberculosis of the joints (‘*Journ. Amer. Med. Assoc.*,’ 1917, LXVIII, *p.* 282).—**R. E. Humphries** and **H. A. Durham** find that the regions most frequently involved in joint tuberculosis in order of frequency are the spine, hip joint, knee joint and ankle joint. The disease is more frequent in boys than in girls. The disease affects the joints of the right side more frequently than those of the left. The average duration of treatment of all joint disease patients was six and a half years. Joint tuberculosis is usually well advanced before diagnosis is made, the average duration of the disease on admission being one and a half years. The average age of patients when admitted for treatment was six and one-fourth years. Ankle joint disease can be cured in most instances with little or no deformity. Of the knee joint cases seen, 15 per cent. had more than 1 in. shortening; 25 per cent. had ankylosis; 75 per cent. had more than 15 degrees motion from full extension; 38 per cent. had more than 90 degrees motion from full extension. Of the hip joint cases cured, 34 per cent. had less than 1 in. shortening; 24 per cent. had varying degrees of flexion and adduction deformity; 28 per cent. had bony or fibrous ankylosis; 55 per cent. had none or only partial destruction of the heads of the femora; 55 per cent. had more than 15 degrees flexion from full extension; 9 per cent. had some degrees of relaxation of knee joint. In Pott's disease the dorsal region is much more frequently involved than all the other regions combined; 73 per cent. of all cases of Pott's disease had perceptible increase of deformity during the course of treatment. Of the patients operated on, 20 per cent. had some increase in deformity following the operation, but in no case was there actual increase in deformity of the area operated on.

T. R. Whipham.

Ophthalmology.

Diphtheria of the conjunctiva (*'Brazil-medico,'* 1916, xxx, *p.* 219). —**N. da Rocha.**—A girl, aged 2 years, presented considerable palpebral œdema of the left eye, especially of the upper lid. The conjunctival secretion was scanty and serous. The mucosa of the upper lid was covered by a yellowish-grey membrane, the bulbar conjunctiva was much injected, the cornea was intact. Owing to the hardness of the œdema and the absence of purulent secretion a diagnosis of diphtheritic conjunctivitis was made, but for the first four days treatment was confined to local irrigations with boracic lotion and saline solution. The palpebral œdema considerably increased, the membrane became thicker, the bulbar conjunctiva became chemotic, and the cornea hazy. Rapid recovery followed antitoxin treatment, the serum being applied locally as well as being injected. The general condition remained good throughout, and no other diphtheritic lesions were noted. Cultures of the conjunctival membranes were at first negative, but later a pure growth of diphtheria bacilli was obtained.

J. D. Rolleston.

A corneal ulcer produced by varicella (*'Journ. Amer. Med. Assoc.,'* 1917, lxviii, *p.* 1476).—**J. S. Wyler** reports the case of a girl, aged 5 years, who during an attack of varicella developed a large ulcer on the cornea which was evidently due to the eruption of a pock in that situation. The ulcer showed no tendency to spread and healed slowly, and there were no other signs in the eye itself. The writer has only been able to find one other similar case. T. R. Whipham.

Infection of the conjunctivæ in children (*'Med. Press,'* 1917, i, p. 150).—**A. Lawson,** at the Section of Ophthalmology of the Royal Society of Medicine, read notes of three cases in which serious infection of the conjunctivæ in children was traced to pet cats, which the children fondled, often burying their faces in the fur. The organisms answerable for the conditions found were *Staphylococcus pyogenes aureus*, *Streptococcus longus*, *Streptococcus brevis*, *Staphylococcus albus*, and in a case in which the cat distributed its favours between a child and the denizens of a neighbouring farm, bovine tuberculosis. In each case cultural proofs were established.

J. Allan.

Notes on some cases of metastatic meningococcal infection of the eye (*'Med. Journ. Austral.,'* 1917, i, *p.* 101).—**E. T. Smith** describes five cases in four of which all the signs of cerebro-spinal meningitis were present and in one they were absent. One child died. Muco-purulent discharge was found in the eye in all the cases. F. R. B. Atkinson.

Three cases of meningococcal irido-choroiditis (*'Arch de Méd. des Enf.,'* 1917, xx, *p.* 189).—**M. Lavergne** reviews the literature, including the recent thesis by Gaudin (*vide* British Journal of Children's Diseases, 1916, xiii, p. 318), and records three cases from Marfan's clinique in children aged 5 years, 13 months, and 11 months respectively. In the first case, in which the complication developed on the sixth day, injection of serum into the vitreous did not bring about a complete cure, but seemed to arrest the process. In the second case, in which the complication developed on the second day of disease, intrathecal and intraocular injections were ineffective, and death took place on the sixth day of disease. In the third case the choroiditis developed on the third day. The child survived, but two injections of serum into the vitreous did not produce any change in the local condition. J. D. Rolleston.

Meningococcal cyclitis and irido-choroiditis (*'Arch de Méd. des Enf.,'* 1917, xx, *p.* 194).—**H. Collette** records a case of each: (1) Girl, aged 5½ years, admitted to hospital on the eleventh day of cerebro-spinal meningitis. Rapid recovery after two injections of antimeningococcal serum. Left cyclitis in convalescence a fortnight after the onset. Considerable diminution of vision and slight atrophy of the eye. (2) Girl, aged 6 years, admitted to hospital on the sixth day of disease. Right irido-choroiditis on seventh day. Rapid loss of vision and atrophy of eye. Removed from hospital by parents in dying condition.

J. D. Rolleston.

Dacryocystitis complicated by purulent meningitis and phlebitis of the cavernous sinuses (*'Arch. de Méd. des Enf.,'* 1917, xx, *p.* 254).—**Condat** records a fatal case in a boy, aged 12½ years, in whom the causal agent was probably the streptococcus. A remarkable feature of the case was that the thrombosis of the cavernous sinus first developed on the opposite side to the dacryocystitis. J. D. Rolleston.

The diagnostic value of tubercle of the choroid (*'Lancet,'* 1916, ii, *p.* 472).—**Sydney Stephenson** points out that it is well to remember that the discovery of tubercle of the choroid may enable us to diagnose not only diseases of the central nervous system but the tuberculous nature of lesions of other parts of the body. In one condition, indeed, acute tuberculosis, it is the sole pathognomonic sign. Brief histories of three cases are given. Case 1: Male, infant, aged 1 month, admitted to hospital as case of apical pneumonia, but recognised as general miliary tuberculosis by the finding of tubercles in the choroid; necropsy; tuberculous nature of the choroidal lesion confirmed microscopically. Case 2: Girl, aged 6 years, admitted for (?) appendicitis; exploratory abdominal incision revealed tuberculous peritonitis; finding of tubercle of choroid led to diagnosis of acute tuberculosis; death. Case 3: Girl, aged 3 years, admitted as case of lobar pneumonia; diagnosis of typhoid fever thought more likely in hospital; the discovery of tubercle of the choroid, however, led to diagnosis of acute tuberculosis, from which the patient succumbed; necropsy; examination of the choroidal tubercles demonstrated the usual histological characters, tubercle bacilli being unusually numerous in some of the "giant-celled systems." J. Allan.

The selective action of spirochætes (four cases of familial ophthalmoplegia interna) (*'Journ. Amer. Med. Assoc.,'* 1917, lxviii., *p.* 963).—**M. Grossman.**—The following cases came under observation two and a half years ago. The father had suffered from spastic hemiplegia and a number of convulsive seizures for about sixteen months, and his speech had become affected. His wife had had three miscarriages, which were followed by the birth of four children, now aged 13, 11, 9, and 7 years. The man's pupils were irregular, unequal, and did not react to light, though there was a sluggish reaction to accommodation. Examination of the blood and spinal fluid revealed a + + + + Wassermann reaction. His wife's vision was failing, and at one time she had had a fleeting attack of diplopia. She had unequal, irregular pupils, which were almost completely fixed to light and reacted sluggishly to accommodation. Her blood Wassermann was + + + +. The oldest child had had snuffles and an eruption at birth, which lasted about one month. He had always been nervous and irritable and considered below par mentally; otherwise the history was negative. The third child had an eruption at birth, but no snuffles. At the age of 7 he had an attack of convulsions, which were followed by spasticity and dragging of the lower extremities. The second child and the fourth child each gave a negative history. In the oldest, second, and fourth children the pupils were widely dilated, unequal in size, irregular in outline, and did not react to light, accommodation, convergence or the instillation of physostigmine salicylate (a 1 per cent. solution) into the eye. The third child, in addition to these pupillary disturbances, had an active nystagmus, bilateral Babinski phenomenon, bilateral inexhaustible ankle clonus, increased knee and ankle jerks, and a well defined spastic gait. He also had about two diopters of swelling in the optic nerve heads. The teeth in the three older children, although not typically Hutchinsonian, were highly suggestive. The blood Wassermann was + + + + in the third child, doubtful in the two older children, and negative in the youngest. The second series of Wassermann reactions were made six months after the children had been receiving treatment, and were + + + + in all of the children. Antisyphilitic treatment has been continued for two and a half years. The father's condition has remained unimproved, while the mother's condition is somewhat better. She still suffers from an occasional headache; but increasing the iodide promptly relieves her. Her vision still remains poor, although there has been no further loss in the past two years. The second and fourth child's pupils react promptly to physostigmine, convergence, and accommodation, but are still a little sluggish to light. The oldest child shows slight return of the reaction to physostigmine, less to convergence, and no return of reactions to accommodation or light reflex. The third child shows slight improvement in his gait and nystagmus. The papillary œdema has cleared up entirely. The pupillary phenomena, knee jerks, ankle clonus, and Babinski, however, remain unchanged. Later observations show that the father has developed frank paretic symptoms. In the oldest child the pupils have again become completely immobile. He has developed marked weakness of the lower extremities, bilateral Babinski reflex, bilateral ankle clonus, increased knee and ankle jerks, and a slightly spastic gait.

T. R. Whipham.

Clinical report of 9 cases of amaurotic family idiocy (*'Arch., of Ped.,'* 1917, xxxiv, *p.* 161).—**J. H. McHenry.**—As all came to the clinic in so short a period of time (15 months), and so few (about 150) are on record, the writer concludes that either many cases are not reported or are not diagnosed. All the symptoms point to a congenital disease and not to an acquired condition. Increased intracranial pressure was noted by lumbar puncture in all the cases in which it was performed. All occurred in Hebrew families, and all were fatal within 2 years.

J. D. Rolleston.

Acrocephaly (*'Amer. Journ. Dis. Child.,'* 1917, xiii, *p.* 61).—**P. Lewin** reports two cases of this condition, which is also known as turmschädel, steeple head, turret skull, turritum caput, and *tête à la Thersite*, in a boy aged 6 years and a girl aged 14 years. When combined with deformities of the hands, the term acrocephalosyndactylism is used (*vide* British Journal of Children's Diseases, 1915, xii, p. 315). The ætiology is obscure. The most probable cause is a premature ossification of the cranial sutures. The striking features of the case are the deformity of the skull and the exophthalmos. Optic atrophy is the most constant ophthalmological finding. Dislocation of the eyeball is not uncommon. Divergent strabismus is frequent, and nystagmus is found in most cases. The prognosis as to life is good, as to improvement very poor. Treatment of any kind is unsatisfactory. J. D. Rolleston.

On fragilitas ossium and its association with blue sclerotics and otosclerosis ('*Edin Med. Journ.*,' 1917, i, *p.* 240).—**E. Bronson** gives a description of two families with hereditary fragility of the bones associated with grey-blue sclerotics, and in the first family with otosclerosis also. A summary of the literature of these peculiarities in relation to fragilitas ossium is presented, together with a general discussion of the whole subject case reports of the congenital type, and a bibliography. The main facts of the two families are summarised as follows: (1) In the *first family*, consisting of fifty-five individuals in four generations, twenty-one had grey-blue sclerotics. (2) Of these twenty-one, only one, a six-year-old boy, who survived infancy, has had no fractures. The number of fractures in any individual is not excessive, and they require a certain amount of force for their production. Sprains and dislocations are also common. The majority of adults are in good general health, and are able to do ordinary work. The mortality among infants with blue sclerotics is in this family greater than among those not affected. (3) The heads of those individuals in this family who have blue sclerotics and bone fragility show an abnormal prominence of the frontal and occipital bones. In two of them there is a history of patency of the fontanelle throughout life. (4) Of eight adults with blue sclerotics and fractures, seven had varying degrees of deafness, the eighth died at 23 without deafness. (5) In the *second family*, consisting of eight individuals in three generations, seven have blue sclerotics, and four of these have had fractures, two others have a tendency to sprains. All are able to lead an ordinary life, except one child, who is somewhat crippled and incurs fractures too easily to be able to run and play. (6) In this family the head has the characteristic shape frequently seen in osteogenesis imperfecta congenita, namely, increase in the bitemporal diameter, so that the ears are turned outwards and downward, slight downward tilting of the axis of the eyes, and an underhung lower jaw. (7) There is no tendency, as in the first family, to deafness, nor is there any arterial sclerosis. (8) In both families the stature of the affected individuals is below the average, with the exception of three members of the first family. The following summary of isolated cases and general discussion is appended: (1) Cases 1 and 2 are fairly typical examples of osteogenesis imperfecta of prenatal onset. They both have had numerous fractures without violence since birth, and both show signs of imperfect ossification of the cranial bones. Case 3 illustrates fragility of the bones of postnatal onset, but a shape of head which also suggests softness in earlier life of the cranial bones. (2) The terminology is varied. Probably Looser's terms—osteogenesis imperfecta congenita and osteogenesis imperfecta tarda—are the most satisfactory. (3) The ætiology is unknown. The hereditary factor is present in only a limited number of cases. (4) Clinically the condition is characterised by defective cranial ossification and by numerous fractures without violence.

The earlier the onset the greater is the liability to fracture. Dislocations also occur. Blue sclerotics may or may not be associated. (5) A limited number of metabolic studies indicates an increased loss of calcium. (6) In both prenatal and postnatal onset of symptoms pathological findings indicate a deficient functional activity of the osteoblasts. In respect to other abnormalities writers disagree. J. ALLAN.

Idiopathic dislocation of the eyeball (*'Edin. Med. Journ.,'* 1917, I, *p.* 129).—**D. M. Greig** describes a case in a female infant aged 11 months, who had been referred to him on account of what appeared to be a congenital proptosis. The projection of the eyeball was found to be present only during fits of crying, and in crying the whole voluntary muscles were thrown into a state of convulsive movement. The eyeballs were protruded to such an extent that actual extrusion appeared imminent The contraction of the orbicularis palpebrarum on each side was excessive, and the upper limit of these muscles, along with the corrugator supercilli, formed a fleshy torus across the forehead, and a ring round each orbit. It was slightly more marked in relation to the left eye. If the fit of crying was more violent than usual or with the slightest touch on the outer canthus the left eyeball would be protruded with a slight jerk out between the lids. The eyelid could not be voluntarily retracted, but it was easy to push the globe backwards into position by a little gentle pressure. In the infrequent and short intervals when the child was at rest, though awake, the eyeballs were somewhat prominent, but during sleep there was no projection.

J. ALLAN.

Dermoid cyst of the orbit (*'Edin. Med. Journ.,'* 1916, II, *p.* 165).—**J. C. Burns** describes a case in a school-girl, aged 12 years, who had complained of diplopia about two weeks prior to admission to hospital. There was a marked fulness over the upper part of the right temple. There was exophthalmos of the right eye, together with a degree of internal and downward rotation of the eyeball. The pupils were equal of normal size and reacted to light and accommodation. The lateral movements and those in an up and down direction were somewhat limited, but the disability seems to have been due to a mechanical rather than a nervous cause. Von Graefe sign positive. The eye was protruded forwards and outwards. The fundus showed nothing except a slight degree of fulness of the veins, suggesting difficulty of return of blood. The vision was nearly full in that eye. The swelling in the region of the orbit was not definitely tender, and did not show signs of inflammation. The upper part of the tumour was of bony hardness, and was continuous with the anterior surface of the frontal bone. Below, the bony surface ended abruptly in a sharp edge well above the zygoma. Below the edge, again, the lower part of the tumour appeared to be soft and elastic. The whole tumour was above and distinct from the zygoma. A skiagram showed a tumour involving an area of the orbit, cranial fossa, and temporal fossa on the right side of the skull. The edge of the tumour was seen to be dense, and the centre quite clear. Potassium iodide in 3 grain doses thrice daily was given, but no improvement occurred. The tumour was removed by operation and proved to be a dermoid cyst. The differential diagnosis from (1) gummatous periostitis, (2) traumatic cephalo-hydrocele, and (3) sarcoma of the orbit is discussed.

J. ALLAN.

A primary intradural tumour of the optic nerve ('*Journ. Amer. Med. Assoc.*,' 1916, LXVII, *p.* 104).—**E. C. Ellett** reports the case of a negro girl, aged 15 years, who for five years at least had had protrusion and blindness of the right eye. On palpation a tumour could be felt behind the eye about the same size as the eyeball itself. This was found at the operation to be on the optic nerve. The external rectus having been divided, the eye was turned upwards and inwards, and the nerve was cut across in front of the tumour. As attempts to encircle the growth with a snare failed, the tumour was cut off as far back as possible with curved scissors, but an entire removal was found impossible. The eye was replaced, and the external rectus sutured. Histologically the growth proved to be a "telangiectatic glioma." The immediate results of the operation were good, the patient having only slight limitation of the rotation of the eye inwards.

T. R. WHIPHAM.

A case of atrophy of the choroid in a boy aged 15 years ('*Med. Journ. Austral.*,' 1916, II, *p.* 540).—**L. G. Davidson.**—Numerous depigmented spots were found in the mid-periphery of the upper and inner quadrant of the fundus, quite new in appearance. There was a large increase in the amount of pigment at the edges of some of the spots. The macula, papilla, and retinal vessels were healthy. F. R. B ATKINSON.

Diseases of the eye in children of and under school age ('*Edin. Med. Journ.*,' 1917, I, *p.* 415).—**J. V. Paterson** and **H. M. Traquair** call attention to certain aspects of those diseases of the eye which in children are apt to produce either complete blindness or such impairment of sight as to impede school education and reduce efficiency in later life. The keynote of their observations is the preventability of the larger part of all blindness and impaired vision in children and the enormously preponderating importance of parental venereal disease as a causative factor. More than half of this blindness is the result of syphilis or gonorrhœa in the parents. Next in order come congenital deformities and defects of the eyes such as microphthalmos, infantile glaucoma, etc. Apart from cases of total blindness there is a second group which, on account of the larger number of individuals affected, must be held to be of great importance, namely, those cases in which the vision, though not completely destroyed, is so impaired as to handicap the child from a very early stage and prevent his ultimately becoming an efficient citizen. The causes are very much the same as in the blind group, with this difference, that so-called strumous or phlyctenular keratitis assumes here a very prominent position. Some forms of refractive error, especially high myopia and high astigmatism, are also present in this group, though not in the former. The members of this group, since they are not sufficiently blind to require or obtain the benefits of blind asylums or pensions, receive neither special consideration nor practical sympathy, and are simply allowed to find their own level as wage-earners.

J. ALLAN.

The reduction of myopia in children of school age ('*Glasg. Med. Journ.*,' 1916, II, *p.* 214).—**W. B. Inglis Pollock** points out that progressive myopia is a most serious affection of the eyeball. It may cause blindness by separation of the retina; by circumscribed atrophy of the choroid and retina at the macula; by the myopic crescent extending from the optic nerve entrance until it involves the macula; or by opacities and hæmorrhages in the vitreous. Myopia begins almost always during school life. The first step in the treatment of progressive myopia is to stop all near work, including reading, writing, sewing, and painting for a prolonged period. The child should spend the greater part of the day in the open air in parks or spaces where there are long vistas. The patient is, therefore, much better in the country or at the coast than in towns where the range of vision is circumscribed by the surrounding buildings. Added to this, there is also the benefit of pure air and probably more wholesome food. General tonics such as the syrup of the iodide of iron and cod-liver oil should be administered. The author has found great success from the continuous employment of atropine in reducing myopia. It is common knowledge that after a week of atropine the myopia is about a diopter less than prior to using the atropine. This change has always been regarded as due to the relaxation of the accommodation, and accordingly no further reduction in the myopia was thought to be possible by continuing mydriasis. He noted, however, that in certain cases after two or three months of treatment the myopia not only stopped increasing, but actually showed a decrease. In most cases the children attend daily at the school clinic in order that the nurse may apply the atropine ointment. Atropine poisoning and atropine dermatitis have but rarely supervened. The great difficulty has been the exclusion from school work. Parents are rarely willing to keep their children from attending school for such periods as the treatment requires. The classes which have been devised by Bishop Harman for the education of myopes and of the partially blind are admirably suited for this treatment, since all reading, sewing of fine work are forbidden. Short clinical notes of four cases are given. J. ALLAN.

Visual defects: refractive and functional (*'Glasg. Med. Journ.,'* 1917, I, *p.* 211).—**J. A. Wilson**, in an examination of over 2000 children in Lanarkshire schools, found 2 per cent. of myopia and 3 per cent. of mixed astigmatism. As the mixed astigmatism of childhood usually passes into myopia during adolescence, then these combined represent about 5 per cent. of myopia in school children of all ages. The percentage of hypermetropia among children is estimated at or about 27 per cent. Functional defects are also met with among children. He gives notes of a case of hysterical amblyopia in a girl aged 14 years and of a case of retinal asthenopia in a schoolboy. J. ALLAN.

The effects of cinematograph displays upon the eyes of children (*'Glasg. Med. Journ.,'* 1917, I, *p.* 206).—**W. B. Inglis Pollock** states that he has seen many young children who have developed squints while frequenting cinematograph displays and older children with congested optic nerves and eye-strain from the same cause. He urges that school children should be allowed to attend these places of amusement only once a month, and he would strenuously object to the introduction of the cinematograph into school teaching except at rare intervals. J. ALLAN.

Bárány's sign in epileptics and school children (*'Boston Med. and Surg. Journ.,'* 1917, CLXXVI, *p.* 877).—**E. A. Tracy.**—Bárány's sign is conjugate deviation of the eyes, when closed, to the right or left. It indicates supranuclear increase of tonus. Among 50 epileptics it was present in 23, the deviation being to the left in 13. and to the right in 10. The sign is not rare in apparently normal children, as it was found among 191 out of 478 school children between 8 and 14 years of age.

J. D. Rolleston.

Hereditary optic atrophy (*'Birmingham Med. Review,'* 1917, lxxxi, *p.* 95).—**J. J. Evans** records six cases, four of which occurred in children aged between 9 and 16 years of age. In all the cases the evidence of atrophy of the nerve was very marked. No possible cause of toxæmia could be discovered, nor any very definite history pointing to hereditary tendency to nerve degeneration. Treatment had little to do with recovery.

J. D. Rolleston.

The vision of the school child (*'New York State Journ. Med.,'* 1916, xvi, *p.* 486).—**P. Lewes** emphasises the importance of the conservation of vision in the school child, and discusses the following propositions: (1) In order that we may know how much importance to attach to defects of the eyes, we must have exact data as to their incidence, their character, their corrigibility, and their influence in retarding the normal progress of a large number of individuals. (2) In order that we may acquire these facts, standardised methods must be devised which are applicable to the entire school population. (3) Measures must be considered for the analysis of the material so gathered that practicable and facile methods may be employed in each case so that it receives suitable attention.

J. Allan.

Reviews.

Modern Aspects of Heart Disease. By G. A. Sutherland, M.D.Edin., F.R.C.P.Lond., Physician to the Hampstead and North-West London Hospital and to the Paddington Green Children's Hospital.

This is a reprint from the 'Lancet' of the Lumleian Lectures delivered before the Royal College of Physicians this year. All who are engaged in the practice of medicine will have read them, and having done so cannot fail to have been interested in the author's able and lucid exposition of the changing aspects of heart disease, which modern methods of investigation have brought about.

Dr. Sutherland lays stress on the necessity for considering the action of the auricles and of the ventricles separately, and for recognising that what was formerly termed "failure of compensation" is, as has been recently shown, the onset of an abnormal rhythm, *i. e.* auricular flutter or fibrillation. In such a condition the compensatory changes have not broken down: they are there, and still efficient, if the conditions suitable for their action are restored by slowing the rate of the heart's beat. This can be done through the action of digitalis either in checking the rate of impulse discharges at the sino-auricular node, or in blocking some of the rapid contractile impulses at the conducting tissues, so that a diminished number of them reach the ventricle. There is no evidence of any direct action of digitalis on the contraction of the left ventricle or on its rate: the drug acts bundle, and not directly upon the ventricles themselves. These views as to the action of digitalis in heart disease differ from those which were formerly taught, and have already aroused no little controversy. However, as Dr. Sutherland says, the investigation into the action of digitalis is still in its infancy, or, at any rate, far from complete, and further researches on the subject are necessary. T. R. W.

Blood Pictures: An Introduction to Clinical Hæmatology. By Cecil Price-Jones, M.B.Lond. Five Coloured Plates, 4 Illustrations in the Text. Pp. 91. Bristol: John Wright & Sons, Ltd. Price 6s. 6d. net.

This is a book which meets a real need, and admirably fulfils its object of serving as a guide to the interpretation of reports on blood-counts. It gives the maximum of information in the minimal number of words and embodies the results of long experience in blood examinations. The author employs the word "lymphoid" to describe the non-granular cells, lymphocytes, and large mononuclears, and the word "leucoid" to designate the granular cells, the polymorphonuclears, eosinophils, and mast-cells; and only upon the vagus nerve by increasing its inhibitory functions on the sino-auricular node, the auriculo-ventricular node, or the auriculo-ventricular speaks of lymphoid (lymphocytic) and leucoid (myeloid) leukæmia—a course which seems an improvement on the existing nomenclature. The significance of Arneth's count is regarded as of little importance, and the absence of digestive leucocytosis as quite untrustworthy as a sign of gastric carcinoma. Broadly speaking, a leucoid type of blood is associated with coccic infections, a lymphoid type with bacillary infections, and a lymphoid and a mononuclear type with protozoal infections. Thus, in acute pulmonary tuberculosis imitating lobar pneumonia, the absence of leucocytosis and the lymphoid character of the blood picture are diagnostic. These items are enough to show the clear and practical character of a handy work which will be of great use to busy medical men even though they have a fair acquaintance with the meaning of blood-counts. H. D. R.

Tuberculosis, and How to Avoid It. By Clive Riviere, M.D., F.R.C.P. London: Methuen & Co. Price 1s.

Dr. Riviere begins his book with a remark that the disease was prevalent among the Egyptians as early as 3500 b.c.

In 400 b.c. Hippocrates recognised the contagiousness of the disease. One hundred years after Christ Pliny advocated open air and pine forests.

The author insists on the prevalence and curability of the disease, and points out that even in healthy villages 37 per cent. of children at the age of fourteen were infected, while in a London district nearly all the school children showed arrested or slightly active tuberculosis.

The immunity conferred by mild attacks of the disease is insisted on. The comparative mildness of bovine tuberculosis on men is noted, and on its protective influence considerable stress is laid.

The danger of ailing adults affecting young children and infants is clearly stated. Infants should avoid public houses of all kinds, and especially tramcars.

To avoid street infection children should walk in parks and open spaces. The nursery floor should be covered with washable cork lino.

Infants should be breast fed, and at the age of nine or ten months raw cow's milk may be taken as part of the feed, the rest being sterilised. The raw milk contains bovine tubercle bacilli, which immunise the infant against the far more deadly human bacillus.

This is the original contribution of the book, and is no doubt a sound one. It is not in accordance with public health legislation.

The older child is urged not to put anything in his mouth but food and drink, and to keep his hands and nails clean.

The diet must be varied. Broth, gravy, and soup cannot take the place of meat.

Repeated respiratory gastro-intestinal catarrhs must be avoided by open-air methods, restriction of sweets and unripe fruits.

To prevent household infection, in addition to the usual directions it is stated that soiled articles should be immersed in 2 per cent. lysol, but no mention is made of special laundries for tuberculous persons' linen. In Paris such laundries are attached to the dispensaries.

Arrest or loss of weight in children is the significant symptom of tuberculosis throughout childhood. C. R.

INTERNATIONAL HEALTH BOARD (PUBLICATION NO. 6): THIRD ANNUAL REPORT. THE ROCKEFELLER FOUNDATION. Pp. 240, with 17 figures. New York, 1917.

THE present report, for the year January the 1st to December the 31st, 1916, reviews the activities of this influential Board for the prevention of disease in the Americas and other parts of the world, such as in China, Ceylon, Siam, Antigua, and Barbadoes. The most important campaign was that against hookworm disease (ankylostomiasis), and included measures for educating the people by public and private lectures, conferences at the dispensaries, and demonstrations and talks to school children on the necessary sanitary precautions. The treatment is fully considered, and the rival claims of chenopodium oil, β-naphthol, and thymol discussed. Alarming symptoms, and sometimes death, have been reported from the use of the oil, and there is no doubt that it is highly toxic and often uncertain in its action, but at the same time it remains in favour as a successful parasiticide. Some experiments in Trinidad seem to show that when mixed with equal parts of sodium bicarbonate, thymol is both more effective in the cure of hookworm disease and less likely to cause unpleasant symptoms than when it is mixed with equal quantities of sugar of milk. Experiments in the campaign against malaria in the lower Mississippi River Valley and in Arkansas by means of detecting carriers and freeing them by quinine from infection and by mosquito control were satisfactorily carried out. A yellow fever commission found that in 1916 the only endemic centre in South America was Guayaquil, Ecuador, where General Gorgas would have directed the practical work of eradication had not the war intervened. The School of Hygiene and Public Health at Baltimore, with Dr. W. H. Welch as director, was announced to open in October, 1917, in order to meet urgent needs for instruction and research. H. D. R.

INDEX.

Abdominal case, obscure, 210
Abscess, retropharyngeal, opening into left bronchus, 78
— — simulated by carotid aneurysm, 78
Abscesses, metastatic, following acute suppurative appendicitis, 288
— multiple, of brain, 136
— — treated with vaccines, 73
— retropharyngeal and tonsillar, evacuated without bistouri, 78
Acetonæmia (acidosis) in case of cyclic vomiting, 33
Acetonuria and diaceturia, non-diabetic, 33
Acidosis of gastro-intestinal origin, 206
Acrocephaly, 297
Adamson (**H. G.**), livedo reticularis, 212
Adenitis in iliac fossa simulating coxalgia, 208
— see also *Otitis.*
Adenoids, eye and throat, 78
— see also *Tonsils.*
Ager (**L. C.**), afebrile non-paralytic polio-encephalitis, 130
Albert-Weil (**E.**), pregnancy diagnosed by radiography, 152
Albumosuria and intestinal toxæmia, 149
Alexia, congenital, see *Weber* (F. Parkes).
Alkaptonuria in childhood, 150
Allen Treatment of Diabetes Mellitus (review), 237
Alopecia, congenital, 211
American Pediatric Society, Transactions of (review), 239
Amyotonia congenita, 194
Anæmia, open-air treatment of, 228
Androtsellis (**H.**), see *de Saussine* (B).
Androutsellis (**A.**), metastatic abscesses following acute suppurative appendicitis, 288
Aneurysm, carotid, simulating retropharyngeal abscess, 78
Antimeningococcal serumtherapy, 224
Antitoxin, see *Diphtheria.*
Antityphoid vaccine, new, 223
Anuria, prolonged, with few symptoms, 148
Aplasia, renal, and venæ cardinales resistentes, 147
Appendicitis followed by pylephlebitis, 208
Appendix, ruptured, in colon bacillus infection of urinary tract, 208
Armstrong (**A. W.**), hydrocephalus, 138
Arthroplasty, see *Transplantation.*
Ascaris lumbricoides causing intestinal obstruction, 208
— — in diphtheritic stenosis, 79
Ascites of obscure origin, 54
Ashby (**J. E.**), duodenal ulcer complicating burns, 206
Ashby (**H. T.**), acute delirium, 111
Ashhurst (**A. P. C.**), cerebral spastic paralysis, 202
Astor (**L. C.**), post-pneumonic nephritis, 149
Ataxia, acute cerebellar, 138
Atrophodermia reticulata symmetrica faciei, 213
Azotæmia in gastro-enteritis, 207

Babonneix (**L.**), myopathy with myotonic reaction, 146
Barabás (**Z.**), sensory disturbances in diphtheritic paralysis, 139
Bárány's sign in epileptics and school children, 301
Bardes (**A.**), the discharging ear, 74
Bardisian (**A.**), method of estimating amount of reducing substances in cerebro-spinal fluid, 133
Bassoe (**P.**), tumours of ventricles, 137
Bathgate (**Violet M.**), see *Kelly* (F. L.).
Baxter (**G. E.**), post-nasal infections, some complicated by acute hæmorrhagic nephritis, 76
Bedell (**A. J.**), oxycephalus, 289

Beer (**E.**), paper-clip in bronchus for seventeen years, 79
Bell (**A. J.**), prolonged use of tubes following diphtheria, 65
Bertrand (**G.**), see *de Saussine* (B.).
BIER's venous stasis in tuberculous meningitis and hydrocephalus, 231
BINET-SIMON tests and mental deficiency, 250
BIRTH-RATE, Declining: its Causes and Effects (review), 152
Blackwell (**H. B.**), the salt-water ear, 75
BLADDER tumours, 150
Blaisdell (**J. H.**), **Cunningham** (**A. P.**), and **White** (**C. J.**), congenital alopecia, 211
Blanchier (**Mlle.**), see *Netter.*
BLOOD, fresh, from convalescents in treatment of scarlet fever, 221
— injection in melæna neonatorum, 276
— Pictures: An Introduction to Clinical Hæmatology, by C. Price-Jones (review), 302
— transfusion, citrate method of, 231
BLUE markings, sacral, 212
Blum (**J.**), see *von Sholly* (A. J.).
van der Bogert (**F.**), ruptured appendix in colon bacillus infection of urinary tract, 208
— symptomatology of congenital intestinal obstruction, 207
BOOKS, possible *rôle* of, in dissemination of contagious diseases, 64
BONES and joints, rare disease of, in two brothers, 195
Boutet (**A.**), see *Rayneau* (A. J.).
BRACHIAL plexus paralysis, operative treatment, 292
BRAIN, multiple abscesses of, 136
— tumour of, 137
BROMODERMA, fungoid: bromide eruption, 215
BRONCHO-PNEUMONIA, treatment of, 229
Bronson (**E.**), fragilitas ossium and its association with blue sclerotics and otosclerosis, 298
Bryant (**W. S.**), epidemic poliomyelitis, 130
Bullen (**N. J.**), cerebro-spinal meningitis, 73
Bunch (**J. L.**), papulo-necrotic tuberculide, 52
— pityriasis rosea with unusual distribution, 53
— vitiligo, 114
Bunting (**C. H.**), see *Yates* (J. L.).
Van Buren (**F. A.**), unusual case of intestinal intussusception, 287
Burns (**J. C.**), dermoid cyst of orbit, 299
— nephritis treated by double decapsulation of kidneys, 149

Cadwalader (**W. B.**), progressive muscular dystrophy, 201
Cadwallader (**R.**), Hirschsprung's disease, 209
CALCULI, ureteral, in childhood (C. G. Cumston), 94
— multiple urinary (F. C. Pybus), 97
Cameron (**H. C.**), amyotonia congenita, 194
— case of osteogenesis imperfecta, 198
— reaction of child to faulty environment, 210
— status lymphaticus from the clinical standpoint, 198
— syphilitic periostitis and epiphysitis in one of twins, without other marked signs of syphilis, 197
des Camieres, see *Nobécourt.*
CANCER, Mortality from, throughout the World, by F. L. Hoffman (review), 153
Canelli (**A. F.**), spontaneous gangrene secondary to otitis and adenitis, 76
Caronia (**G.**), vaccine therapy in whooping cough, 222
— — new methods, antityphoid, 223
— — — in Malta fever, 224
CATARACT, congenital, with Mongolism, 267
Cautley (**Edmund**), malformation of œsophagus, 1
— splenic enlargement, 195
CELLULITIS, pelvic, fatal case (F. C. Pybus), 192
CEREBELLAR tumour, apparent recovery after operation, 290
CEREBRAL degeneration and epileptiform fits, with amaurosis (F. Parkes Weber), 176
CEREBRO-SPINAL fluid, cholesterin and urea in, 133
— — Lange gold chloride reaction in, 132
— — method of estimating amount of reducing substances in, 133
— — potassium permanganate test in, 132
Chapin (**H. D.**), relation between pædiatrics and general medicine, 122
— and **Pease** (**M. C.**), acidosis of gastro-intestinal origin, 206
Chiaravalloti (**L.**), Landau's reaction in hereditary syphilis, 217
CHICKENPOX, mumps, and German measles, study of fatality, 72
CHILD welfare and dermatology, 211
— — and Maternity (review), 239
CHONDRO-DYSPLASIA, hereditary deforming, 290
CHOREA, 139, 140, 200
— and motor tic, 140
CHOREIC movements (case for diagnosis), 113
CHOROID, atrophy of, 300
— tubercle of; diagnostic value, 296
CHROMIDROSIS and bromidrosis, 215
Churchill (**F. S.**), possibilities of a pædiatric society, 120

CINEMATOGRAPH displays, effects upon eyes of children, 301
CISTERNA-SINUS drainage in treatment of hydrocephalus, 232
CLEFT palate, see *Harelip.*
CLEIDO-CRANIO-DYSOSTOSIS (familial), 50
Cleveland (**A. J.**), transient hæmaturia, 149
CLINICAL Methods: A Guide to the Practical Study of Medicine, by R. Hutchison and H. Rainy (review), 158
Clough (**F. E.**), prolonged anuria with few symptoms, 148
Coates (**G.**), ozæna, 117
— vaccine treatment of suppurative otitis media, 76
Cockayne (**E. A.**, R.N.), congenital defect of duodenum; bile found above and below absent portion, 188
— hereditary neuro-fibromatosis (von Recklinghausen's disease), 58
— hypopituitarism, 52
— Werdnig-Hoffmann type of spinal muscular atrophy, 52
Cohen (**E.**), see *Forbes* (D.).
Cohn (**A.**), prevention and limitation of deformity in infantile paralysis, 292
Cohnen (**T.**), rare complication of diphtheritic tracheal and laryngeal stenosis, 79
Collette (**H.**), meningococcal cyclitis and irido-choroiditis, 296
Colliver (**J. A.**), obscure manifestations of otitis media, 75
COLON, malposition of, 127
Comby (**J.**), causes of chorea, 140
— chromidrosis and bromidrosis, 215
— evacuation of retropharyngeal and tonsillar abscesses without bistouri, 78
COMEDONES, grouped, 214
Concetti (**L.**), livedo annularis vel reticularis, 213
Condat, dacryocystitis with purulent meningitis and phlebitis of cavernous sinuses, 296
CONJUNCTIVA, diphtheria of, 295
— infection by cat's fur, 277
CONTAGIOUS diseases, possible *rôle* of books in dissemination of, 64
Coriat (**L. H.**), dystonia musculorum deformans: Oppenheim's new disease, 146
CORNEAL ulcer produced by varicella, 295
COXALGIA simulated by adenitis in iliac fossa, 208
Cozzolino (**D**), present-day therapeutics of spasmophilia, 232
CRANIAL decompression in cerebral spastic paralysis, 292
Crary (**G. W.**), eczema, 214
di Cristina (**G.**), clinical observations on new antityphoid vaccine, 223
di Cristina (**G.**), epidemic cerebro-spinal meningitis, 73
Cumston (**C. G.**), treatment of enlarged cervical lymph-nodes, 172
— ureteral calculi in childhood, 94
Cunningham (**A. R.**), results of open-air treatment of pneumonia, 229
— see *Blaisdell* (J. H.).
CURVATURE (lateral) of spine, some points in (J. S. Kellett Smith), 107
CYCLITIS and irido-choroiditis, meningococcal, 296

DACRYOCYSTITIS with purulent meningitis and phlebitis of cavernous sinuses, 296
Davidson (**L. G.**), atrophy of choroid, 300
Davis (**G. G.**), orthopædic treatment of infantile paralysis, 202
DELIRIUM (acute) with lobar pneumonia (H. T. Ashby), 111
— — — (J. Porter Parkinson), 193
DENTAL caries, prevention of, and child welfare, 203
DENTITION causing violent screaming and photophobia, 203
DERMATO-MYOSITIS, 57
DERMATOLOGY in relation to child welfare, 211
DERMOID cyst of orbit, 299
DIABETES Mellitus, Three Lectures on the Treatment of, by Alimentary Rest (The Allen Treatment), by O. Leyton (review), 237
— and infantilism, 56
DIAGNOSIS, cases for, 58, 113, 276
DIGESTIVE disorders, chronic, 208
DIPHTHERIA antitoxin, intravenous and intramuscular administration of, 219
— bacilli in nose and throat, use of kaolin for, 69
— carriers, 68, 69, 221
— effect of prolonged use of tubes, 65
— immunity in, see *Schick toxin reaction.*
— in first year of life, 64
— isolated nasal (J. D. Rolleston), 21
— of conjunctiva, 295
— studies on, 68
— toxin-antitoxin, active immunisation with, 68
— treated without serum, considerations and experiments on, 219
DIPHTHERITIC stenosis, rare complication of (*Ascaris lumbricoides*), 79
DIPLEGIA, cerebral, with abnormal flexibility ("atony" or "hypotonia") of ankle-joints (F. Parkes Weber), 31
Dixon (**S. G.**), infantile paralysis, 260
Dorwarth (**C. V.**), establishment of department of preventive medicine in hospitals for children, 61
Drayton (**W.**), hysteria, 202
— treatment of poliomyelitis from neurologist's standpoint, 117

Dunn (**J. S.**), ganglioneuroma of spheno-maxillary fossa, 289
Duodenum, congenital defect of; bile found above and below absent portion (E. A. Cockayne), 188
— — stenosis of, 205
— — — with chronic lactosuria, 206
— ulcer of, complicating burns, 206
Durham (**H. A.**), see *Humphries* (R. E.).
Dystonia musculorum deformans: Oppenheim's new disease, 146
Dystrophia adiposa genitalis, with congenital lues, 55
Dsytrophy, progressive muscular, 201

Ear, discharging, 74
— infection of, with Vincent's micro-organisms, 75
— salt-water, 75
— syphilitic diseases of, 76
Ectopia vesicæ, see *Pybus* (F. C.).
Eczema (cause and treatment), 214
Eder (**M. D.**), The Psycho-Neuroses in War Psychology and Treatment (review), 238
Ehrenfried (**A.**), hereditary deforming chondrodysplasia, 290
Ellett (**E. C.**), primary intradural tumour of optic nerve, 300
Elliott (**A. R.**), trichinosis, 147
Empyema, interlobar, treated by artificial pneumothorax, 229
Endoscopy of œsophagus and upper air-passages, 79
Enuresis, management of, 150
Environment, faulty, reaction of child to, 210
Ependymitis, 136
Epidermolysis bullosa, 212
Epididymo-orchitis, unusual, 151
Epileptics, Bárány's sign in, 301
Epileptiform fits and cerebral degeneration, with amaurosis, 176
Epstein (**J.**), vomiting in infancy, 204
Equino-varus, congenital, 200
Erysipelas migrans treated with vaccines, 73
Eulenburg's disease, see *Paramyotonia.*
Eusol in treatment of lacerated wound of thigh, 233
Evans (**J. J.**), hereditary optic atrophy, 302
Exophthalmic goitre, 285
Eye, diseases of, in children of and under school age, 300
Eyes of children, effects of cinematograph displays upon, 301
— — by N. Bishop Harman (review), 158
Eyeball, idiopathic dislocation of, 299

Fæcal impaction, extreme, 288
Falkener (**W. W.**), see *Mitchell* (A. G.).
Falls (**F. H.**), epidemics of pemphigus neonatorum, 211
Feeding in infants, 59, 128
La Fetra (**L. E.**), hereditary syphilis, 216
Ffeiffer (**D. G.**), congenital pyloric stenosis, 125
Filia (**A.**), heliotherapy in children, 231
— sacral blue markings, 212
Finkelstein (**H.**), congenital and familial joint hypotonus, 145
Fischer (**L.**), erysipelas migrans and multiple abscesses successfully treated with vaccines, 73
Fisher (**A. L.**), syphilitic bone and joint lesions simulating tuberculosis, 217
Fletcher (**J. R.**), the standard tonsillectomy, 77
Flexibility, abnormal ("atony" or "hypotonia") of ankle-joints in cerebral diplegia, 31
Forbes (**D.**), and **Cohen** (**E.**), congestion treatment of epidemic cerebro-spinal meningitis, 225
Fowler (**J. S.**), so-called "tetanism," 141
Fracture of forearm, 291
— unusual, of both bones of leg, 291
Fragilitas ossium, 114
— — and its association with blue sclerotics and otosclerosis, 298
Francioni (**C.**), congenital stenosis of duodenum with chronic lactosuria, 206
Fraser (**J. S.**), syphilitic diseases of ear, 76
Frauenthal (**H. W.**), treatment of infantile paralysis, 226, 227
Freeman (**R. G.**), open-air treatment of pneumonia and anæmia, 228
Freiberg (**A. H.**), evolution of osteochondritis deformans coxæ juvenilis, 294
Friedberg (**S. A.**), removal of tonsils and adenoids in diphtheria carriers, 68
Fur (cat) infection of conjunctiva, 277
Fussell (**M. H.**), use and limitations of vaccines in general medicine, 280

Ganglioneuroma of spheno-maxillary fossa, 289
Gangrene (spontaneous) secondary to otitis and adenitis, 76
Gastro-enteritis, azotæmia in, 207
Gerhard (**A. H.**), chorea, 200
German measles, fatality of, 72
Gerstley (**J. R.**), studies on parenteral infections, 210
Gibbs (**J. H.**), child welfare and prevention of dental caries, 203
— how to save teeth of children, 203
Gile (**C.**), indictment of the tonsil, 77
Gill (**B.**), treatment of infantile paralysis during period of recovery, 119
Ginsburg (**N.**), bone transplantation and arthroplasty of elbow-joint, 116

di Giorgio (**G.**), ætiology of Mongoloid idiocy, 144
Glandular enlargement, cervical, in children as evidence of infection (E. B. Gunson), 255
Glioma, metastatic (neuro-epithelioma) of right ovary, 199
Goddard (**H. H.**), syphilis in parents as cause of feeble-mindedness in children, 219
Goodman (**A. L.**), lymphosarcoma of sigmoid, 209
Gordon (**A.**), value of Wassermann reaction in mental deficiency, 219
Graham-Stewart (**A.**), albumosuria and intestinal toxæmia, 149
Greer (**A. E.**), interlobar empyema treated by artificial pneumothorax, 229
Greig (**D. M.**), congenital dermoid tumour of rectus sheath, 144
— — kyphosis, 290
— — superior radio-ulnar synostosis, 290
— idiopathic dislocation of eyeball, 299
Griffith (**J. P. C.**), acute cerebellar ataxia, 138
— teaching of infant feeding, 59
Grossman (**J.**), fracture of forearm, 291
— prevention and treatment of deformities in anterior poliomyelitis, 291
— spastic paralysis, 138
Grossman (**M.**), selective action of spirochætes (four cases of familial ophthalmoplegia interna), 296
— treatment of chorea, 140
Grulee (**C. G.**), course and prognosis of pyelo-cystitis, 150
— Lange gold chloride reaction in cerebrospinal fluid, 132
Guidi (**G.**), azotæmia in gastro-enteritis, 207
Gunson (**Capt. E. B.**), cervical glandular enlargement in children, as evidence of infection, 255
Guthrie (**Leonard**), ascites of obscure origin, 54
— family splenomegalic acholuric jaundice, 53

Hæmangioma, 282
Hæmaturia, transient, in children, 149
Hæmorrhage, abdominal, of ovarian origin, 289
Hall (**A. J.**), hysterical mutism, 143
Haller (**D. A.**), and **Walker** (**I. C**)., syphilis with neurological symptoms simulating other conditions, 218
Hamann (**C. A.**), congenital megacolon (Hirschsprung's disease), 209
Hamill (**McC.**), the health district in relation to infant mortality, 62
Harelip and cleft palate, operative treatment of, 286
Harman (**N. Bishop**), The Eyes of our Children (review), 158
Harris (**I.**), treatment of nephritis by adrenalin, 231
Hay fever treated with pollen extract, 229
Haynes (**J. S.**), treatment of hydrocephalus by cisterna-sinus drainage, 232
Health Commission, International (Rockefeller Foundation), Annual Reports (reviews), 159, 304
— district in relation to infant mortality, 62
Heart block following acute pneumonia, 112
— disease, congenital, in mental defective with negroid-Mongoloid facies (F. Parkes Weber), 269
— — Modern Aspects of, by G. A. Sutherland (review), 302
— failure during operation for removal of tonsils and adenoids; heart massage; recovery (W. M. Mollison), 42
Heliotherapy in children, 231
Hemiglossitis (acute) in measles, 70
Hernia, congenital umbilical, ectopia vesicæ, and imperforate anus (F. C. Pybus), 274
— diaphragmatic, 288
Herzog (**M.**), see *Nuzum* (J. W.).
Hipsky (**P. L.**), resection of intussusception; recovery, 287
Hirschfeld (**H. K.**), congenital hypertrophic spastic stenosis of pylorus, and Rammstedt's operation, 286
Hirschsprung's disease, 209
Hirsuties, congenital ("Simian type") (F. Parkes Weber), 272
Hodgkin's disease, results of treatment, 230
Hoffman (**F. L.**), Mortality from Cancer throughout the World (review), 153
Holmes (**J. B.**), multiple abscesses of brain, 136
Holt (**L. E.**), hypertrophic stenosis in infants, 161
Hope of the Future: Management of Children in Health and Disease, by M. Scharlieb (review), 156
Howell (**W. W.**), diagnosis of pyloric stenosis and spasm by duodenal catheter, 205
Howland (**J.**), future of pædiatrics, 124
Hudson-Makuen (**G.**), conservative treatment of tonsils, 77
Hughes (**W. K.**), surgical treatment of anterior poliomyelitis, 292
Humphries (**R. E.**), and **Durham** (**H. A.**), treatment of tuberculosis of joints, 294
Hunt (**J. R.**), progressive torsion spasm of childhood (dystonia musculorum deformans), 146
Hunter (**Major C.**), a rare disease (bones and joints) in two brothers, 195

Huntingdon (**W. H.**), mastoiditis complicated by purulent cerebro-spinal meningitis, 76
Hutchison (**R.**), melæna neonatorum successfully treated by injection of whole blood or blood-serum, 276
— and **Rainy** (**H.**), Clinical Methods: A Guide to the Practical Study of Medicine (review), 158
HYDROCEPHALUS, 138, 139
— treatment of, 231, 232
HYDRONEPHROSIS, large congenital, 147
— with multiple ureters, 148
HYGROMA of neck, 117
HYMEN, imperforate, 151
HYPERTRICHOSIS, 116
HYPOPITUITARISM, 52
HYPOTONUS (joint), congenital and familial, 145
HYSTERIA, 202

IDIOCY, amaurotic family, 297
— Mongolian, 144, 219
IMMUNISATION against diphtheria, 68
— — — see also *Schick test.*
Imperatori (**C. J.**), endoscopy of œsophagus and upper air-passages, 79
— some methods useful in direct laryngoscopy, 78
IMPERFORATE anus, see *Pybus* (F. C.).
INDIGESTION, treatment of, 230
INDUSTRIAL Women's Organisations, Standing Joint Committee of (correspondence), 160
INFANT feeding, 59, 128
— mortality, health district in relation to, 62
INFANTILISM, diabetes and, 56
INTESTINAL flora, experimental studies of, 210
— obstruction, 287
— — congenital, symptomatology of, 207
— — due to *Ascaris lumbricoides,* 208
INTRADURAL tumour, primary, of optic nerve, 300
INTUSSUSCEPTION, 287
— and intestinal obstruction, 287
IOWA University Monographs: Studies in Medicine (review), 158
IRIDO-CHOROIDITIS, meningococcal, 295, 296

JACQUET, so-called "post-erosive syphiloids of," 217
JAUNDICE, splenomegalic acholuric (familial), 53
Jeans (**P. C.**), see *Veeder* (B. S.).
Johnson (**W. H.**), malposition of colon, 127
Johnston (**J. C.**), preventive work in connection with medical treatment, 233
Johnston (**W. F.**), exophthalmic goitre, 285
JOINTS, tuberculosis of; treatment, 294
Jones (**E.**), unconscious mental life of the child, 142
Jordán (**J. A.**), typhoid fever in breast-fed children, 72

Kakels (**M. S.**), large congenital hydronephrosis, 147
KAOLIN for removal of diphtheria bacilli from nose and throat, 69
Keilty (**R. A.**), fibro-adeno-rhabdomyomatous mesothelioma of kidney, 148
Kelly (**F. L.**), and **Bathgate** (**Violet M.**), diphtheria carriers, 68
Kelly (**T.**), meningitis closely simulating tuberculous form, 117
Kerley (**C. G.**), eczema, 214
— and **Le Wald** (**L. T.**), chronic digestive disorders, 208
KIDNEY, fibro-adeno-rhabdomyomatous mesothelioma of, 148
— malignant tumour of, 148
KIDNEYS, double decapsulation of, as treatment of nephritis, 149
Kilgore (**A. R.**), see *Terry* (W. I.).
Knowles (**F. C.**), congenital lues, 116
— and **Christensen** (**N.**), hypertrichosis, 116
Koehler (**G. F.**), diaphragmatic hernia, 288
Kolmer (**J.**), non-specific activity of bacterial vaccines, 278
— and **Moshage** (**E. L.**), Schick toxin reaction for immunity in diphtheria, 65
KYPHOSIS, congenital, 290

LACTOSURIA, chronic, in congenital duodenal stenosis, 206
Lahr and **Canat**, treatment of diphtheria carriers, 221
Lakin (**C. E.**), supposed intrathoracic neoplasm, 51
LANDAU'S reaction in congenital syphilis, 217
LANDRY'S paralysis, relation to poliomyelitis, 130
LANGE gold chloride reaction in cerebrospinal fluid, 132
Langmead (**F.**), dystrophia adiposa genitalis with congenital lues, 55
— family showing cleido-cranio-dysostosis, 50
LARYNGOSCOPY, direct, methods useful in, 78
Laubach (**C. A.**), possible *rôle* of books in dissemination of contagious diseases, 64
Lavergne (**M.**), meningococcal irido-choroiditis, 295
Lawson (**A.**), fur (cat) infection of conjunctiva, 277
Leighton (**W. E.**) and **Pringle** (**J. A.**), streptococcic meningitis, 135
de Lemos (**F.**), hæmorrhagic varicella, 71
LEUKÆMIA, acute, infective theory of (G. Ward), 10
Lewes (**P.**), vision of school child, 302
Lewin (**P.**), acrocephaly, 297

Lewisohn (R.), citrate method of blood transfusion, 231
Lipodystrophia progressiva (F. Parkes Weber), 81
— — in a male (F. Parkes Weber), 179
Livedo annularis vel reticularis, 213
— reticularis, 212
Liver, congenital unilocular cyst of (hæmangioma), 282
Lissner (H. H.), pylephlebitis following appendicitis, 208
Lockhart-Mummery (J. P.), teratoma, 115
Lockyer (C.), metastatic glioma (neuro-epithelioma) of right ovary, 199
Longo (A.), serum therapy in epidemic cerebro-spinal meningitis, 225
Lovett (R. W.), Treatment of Infantile Paralysis (review), 155
Low (R. C.), dermatology in relation to child welfare, 211
Lowenburg (H.), congenital unilocular cyst of liver (hæmangioma), 282
Lues, congenital, 116
— — with dystrophia adiposa genitalis, 55
Luttinger (P.), pertussis vaccine, 222
Lymph-nodes, enlarged cervical, treatment of (C. G. Cumston), 172
Lymphosarcoma of sigmoid, 209

McCleave (T. C.), diaphragmatic hernia, 288
McClelland (J. E.) and **Ruh (H. O.)**, syphilis as an ætiological factor in Mongolian idiocy, 219
McHenry (J. H.), amaurotic family idiocy, 297
MacKenzie (Ivy), chorea, 139
Maggiore (S.), alkaptonuria, 150
Makuen (G. H.), stammering, 143
Mallory (F. B.) and **Medlar (E. M.)**, ætiology of scarlet fever, 69
Malta fever, new methods of vaccine therapy in, 224
Manchester Babies' Hospital: Medical Registrar's Annual Reports (review), 159
Marion (G. A.), brain tumour, 137
Maternity and Child Welfare, Some Medical Aspects of (review), 239
Mathers (G.) and **Tunnicliff (R.)**, reaction of immunity in acute poliomyelitis, 130
Measham (J. S.), treatment of broncho-pneumonia, 229
Measles, acute hemiglossitis in, 70
— concealed, 70
— some important factors affecting incidence and fatality, 70
Medicine, Studies in: University of Iowa Monographs (review), 158
Megacolon, congenital (Hirschsprung's disease), 209
Melæna neonatorum successfully treated by injection of whole blood or blood-serum, 276
Melchiorri (A.), post-diphtheritic paralysis and serotherapy, 220
Meltzer (S. J.), treatment of acute poliomyelitis, 226
Meningitis, cerebro-spinal, 73
— — epidemic, 73, 283
— — — treated with Flexner's serum, 74
— — — treatment by congestion, 225
— — — extensive purpuric eruptions in, 74
— — — meningococcus carriers, 74
— — from streptothrix, 136
— — meningococci in purpuric elements of (A. Netter and M. Salanier), 101
— — purulent, complicating mastoiditis, 76
— purulent, and phlebitis of cavernous sinuses, complicating dacryocystitis, 296
— serosa, 134
— streptococcic, 135
— tuberculous, and hydrocephalus treated by Bier's venous stasis, 231
— — simulated, 117
Meningococcal infection with meningococcus in purpuric eruption (A. Netter, M. Salanier, and Mlle. Blanchier), 264
— irido-choroiditis, 295, 296
— metastatic infection of eye, 295
Meningococci, presence of, in purpuric elements of meningococcal infection (A. Netter and M. Salanier), 101
Mental deficiency, available means for research and prevention, 143
— — and Binet-Simon tests, 250
— — value of Wassermann reaction, 219
Mesothelioma, fibro-adeno-rhabdomyomatous, of kidney, 148
Middlemiss (J. E.), analysis of 16 cases of chorea and motor tic, 140
Miles (A.), lacerated wound of thigh treated by eusol, 233
Miller (M. J.), see *Ruh* (H. O.).
Mitchell (A. G.), and **Falkener (W. W.)**, cerebro-spinal meningitis, 283
— and **Quinn (N. J.)**, unusual case of epididymo-orchitis, 151
Modigliani (E.), considerations and experiments on cases of diphtheria treated without serum, 219
Mollison (W. M.), heart failure during operation for removal of tonsils and adenoids; heart massage through abdominal incision; recovery, 42
Mongolian idiocy, syphilis as an ætiological factor in, 219
Mongolism with congenital cataract (F. Parkes Weber), 267
Mongoloid idiocy, 144, 219
— — ætiology, 144
Moody (A. M.), see *Grulee* (C. G.).
Moore (S. E.), dangers and complications of tonsillectomy, 77
Moorhead (T. G.), meningitis serosa, 134

Morgan (**E. A.**), extensive purpuric eruptions in epidemic meningitis, 74
Morison (**R.**), Surgical Contributions for 1881–1916 (review), 156
Morse (**J. L.**), treatment of indigestion, 230
Moshage (**E**), see *Kolmer* (J.).
Motor tic, see *Chorea.*
Mulholland (**J. A.**), infection of ear with Vincent's micro-organisms, 75
Mumps, fatality of, 72
Mutism, hysterical, 143
Myelitis, acute, following varicella, 71
Myopathy with myotonic reaction, 146
Myopia, reduction of, in children of school age, 300
Myotonia (familial), probably intermittent Thomsen's disease, 145
— congenita (Thomsen's disease), 144

Neal (**J. B.**), laboratory aids in diagnosis of poliomyelitis, 131
Negroid-Mongoloid facies in mental defective with congenital heart disease, 269
Neild (**F. M.**), perforated typhoid ulcer, 73
Nelson (**A. W.**), epidermolysis bullosa, 212
Neoplasm, intrathoracic (supposed), 51
Nephritis, acute hæmorrhagic, complicating post-nasal infections, 76
— post-pneumonic, 149
— treatment of, by adrenalin, 231
— treated by double decapsulation of kidneys, 149
Nesbitt (**G. E.**), obscure abdominal case, 210
Netter (**A.**), serum treatment of poliomyelitis, 228
— and **Salanier** (**M.**), presence of meningococci in purpuric elements of meningococcal infection, 101
— — and **Wolfrom** (**Mme.**), new case of hyperacute purpura, 104
— — and **Blanchier** (**Mlle.**), two fresh cases of meningococcal infection with meningococcus in purpuric eruption, 262
Neuhof (**H.**), sialolithiasis and sialodochitis in childhood, 204
Neuro-epithelioma of ovary, 199
Neuro-fibromatosis, hereditary (von Recklinghausen's disease), 58
Neurological symptoms in syphilis, 218
Neurotic manifestations, 143
Neustaedter (**M.**), relation of Landry's paralysis to poliomyelitis, 130
Newlin (**A.**), management of enuresis, 150
Nicholson (**P.**), enlarged thymus treated with X-rays, 117
Nicoll (**J. H.**), operative treatment of harelip and cleft palate, 286
Nobécourt, des Camiers, and **Tournier,** phlebitis in scarlet fever, 70
Novak (**E.**), abdominal hæmorrhage of ovarian origin, 289
Noyes (**M. L.**), hay fever treated with pollen extract, 229
Nuzum (**J. W.**), bacteriological findings in cerebro-spinal fluid in poliomyelitis, 131
— and **Herzog** (**M.**), experimental studies in ætiology of acute epidemic poliomyelitis, 129

Obstetrics, Normal and Operative, by G. P. Shears (review), 80
Oertel (**J. E.**), eye adenoids and their relation to throat adenoids, 78
Œsophagus, malformation of (E. Cautley), 1
O'Neil (**R. F.**), bladder tumours, 150
Opdyke (**R.**), concealed measles, 70
Open-air treatment of pneumonia and anæmia, 228, 229
Ophthalmoplegia interna, familial, 296
Oppenheim's disease, see *Dystonia.*
Optic nerve atrophy, bilateral (?) tabetic, 195
— — — hereditary, 302
— — — with positive Wassermann reaction and history of convulsions, 197
— — primary intradural tumour of, 300
Orbit, dermoid cyst of, 299
Osteochondritis deformans coxæ juvenilis, evolution of, 294
Osteogenesis imperfecta, 198
Osteomyelitis, changes observed in, 198
Ostheimer (**M.**), feeding in second year, 128
Otitis media, obscure manifestations of, 75
— — suppurative, 75
— — — vaccine treatment of, 76
— and adenitis, spontaneous gangrene secondary to, 76
Otology, retrospect of (1916), 47
Otosclerosis; association with fragilitas ossium, 298
Ott (**W. O.**), and **Roy** (**K. A.**), treatment of diphtheria carriers with iodised phenol, 69
Oxycephalus, 289
Ozæna, 117

Pædiatric Society, possibilities of a, 120
Pædiatrics and general medicine, relation between, 122
— future of, 124
Paper-clip in bronchus for seventeen years, 79
Paralysis, brachial plexus, operative treatment, 292
— cerebral spastic, 202
— — — results of cranial decompression, 292
— diphtheritic, sensory disturbances in, 139
— facial, possibly due to brain tumour, 283
— infantile (S. G. Dixon), 260

PARALYSIS, infantile, diagnosis, prognosis, prophylaxis, and medical treatment, 132
— — prevention and limitation of deformity in, 292
— — treatment of, 226, 227
— — — by R. W. Lovett (review), 155
— — — during period of recovery, 119
— — — electrical, 227
— — — orthopædic, 202
— pressure of lower limbs, with scoliosis, 293
— spastic, 138
PARAMYOTONIA, congenital, familial: Eulenburg's disease, 145
PARENTERAL infections, studies on, 210
Park (**W. H.**), and **Zingher** (**A.**), active immunisation with diphtheria toxin-antitoxin, 68
Parkinson (**J. Porter**), acute delirium in lobar pneumonia in a child, 193
— acute pneumonia with hyperpyrexia; heart block, 112
— case for diagnosis (choreic movements), 113
— diabetes and infantilism, 56
Paterson (**J. Y.**), and **Traquair** (**H. M.**), diseases of eye in children of and under school age, 300
Peacock (**A. H.**), multiple ureters with hydronephrosis, 148
Pease (**M. C.**), see *Chapin* (H. D.).
PEMPHIGUS neonatorum, epidemics of, 211
Percy (**K. G.**), typhoid fever in children, 72
PERIOSTITIS and epiphysitis, syphilitic, in one of twins, without other marked signs of syphilis, 197
Perkins (**J. A.**), thrombosis following measles, 126
Perkins (**R. G.**), see *Ruh* (H. O).
Pernet (**G.**), acquired syphilis in infants, with remarks on crèches, 168
— atrophodermia reticulata symmetrica faciei, 213
— staphylococcia with xerodermia, 214
Perret (**J. M.**) and **Simon** (**H. T.**), intestinal obstruction due to ascaris lumbricoides, 208
PERTUSSIS vaccine in whooping cough, 222
Peterson (**E. W.**), intestinal obstruction, with special reference to intussusception, 287
Petty (**D. H.**), serum treatment of infantile paralysis, 227
PHENOL, iodised, for diphtheria carriers, 69
PHILADELPHIA Pediatric Society, 59, 116, 200, 278
PHLEBITIS in scarlet fever, 70
PITYRIASIS rosea with unusual distribution, 53
PNEUMONIA (acute) with hyperpyrexia followed by heart-block, 112
PNEUMONIA, lobar, with acute delirium (J. Porter Parkinson), 193
— — — (H. T. Ashby), 111
— open-air treatment of, 228, 229
PNEUMOTHORAX, artificial, in interlobar empyema, 229
POLIO-ENCEPHALITIS, afebrile, non-paralytic, 130
POLIOMYELITIS, bacteriological findings in cerebro-spinal fluid, 131
— epidemiology, pathology, symptomatology, 129
— predisposing factors, 129
— acute, reaction of immunity, 130
— — treatment of, 226
— — — by immune human serum, 227
— — epidemic, 130
— — — ætiology of, 128, 129
— anterior; prevention and treatment of deformities, 291
— — surgical treatment, 292
— — treatment of, 226
— laboratory aids in diagnosis, 131
— relation to Landry's paralysis, 130
— treatment of, from neurologist's standpoint, 117
Pollock (**W. B. Inglis**), effects of cinematograph displays upon eyes of children, 301
— reduction of myopia in children of school age, 300
Polozker (**I. L.**), treatment of pertussis, 222
POLYP, umbilical, 288
Pontoppidan (**P.**), prognosis of infantile vulvo-vaginitis, 151
Porter (**L.**), apparent recovery after operation for cerebellar tumour, 290
POST-DIPHTHERITIC paralysis and serotherapy, 220
POST-NASAL infections, 76
POTASSIUM permanganate test in cerebrospinal fluid, 132
PRECOCIOUS sexual development, 114
PREVENTIVE medicine, department of, required in children's hospitals, 61
— work in connection with medical treatment, 233
Price-Jones (**C.**), Blood Pictures: an Introduction to Clinical Hæmatology (review), 302
Priestley (**J.**), mental deficiency and Binet-Simon tests, 250
— ten years' experience of ringworm in public elementary schools, 241
Pringle (**J. A.**), see *Leighton* (W. E.).
Pritchard (**E.**), cases for diagnosis, 58, 276
— extensive tuberculous infiltration of thoracic contents and brain, 115
PROSTATE, sarcoma of, 151
Provinciali (**M.**), Mongoloid idiocy 114
PSORIASIS, treatment of, 215

PURPURA (hyperacute) without cerebro-spinal meningitis (A. Netter, M. Salanier, and Mme. Wolfrom), 104
— in meningitis, 74, 101, 264
Pybus (**F. C.**), congenital umbilical hernia, ectopia vesicæ, and imperforate anus, 274
— fatal case of pelvic cellulitis, 192
— multiple urinary calculi, 97
PYELO-CYSTITIS, course and prognosis, 150
PYLEPHLEBITIS following appendicitis, 208
PYLORIC stenosis, 125, 161, 204, 205, 286. 287
— — diagnosis of, by duodenal catheter, 205
— — Rammstedt's operation, 286, 287

Quinn (**N. J.**), see *Mitchell* (A. G.).

Rabinoff (**S.**), prophylactic vaccination for varicella, 71
Raby (**J.**), see *Snell* (A. C.).
RADIOGRAPHY, pregnancy diagnosed by, 152
RADIO-ULNAR synostosis, congenital superior, 290
Rainy (**H.**), see *Hutchison* (R.).
RAMMSTEDT'S operation, see *Pyloric stenosis.*
Ramond and **Schultz**, treatment of scarlet fever by salicylates, 221
Ransohoff (**J. L.**), and **Woolley** (**P. G.**), operative cure of congenital pyloric stenosis, 287
Rappaport (**B.**), use of kaolin to remove diphtheria bacilli from nose and throat, 69
— see also *Weaver* (G. H.).
Rayneau (**A. J.**), congenital familial paramyotonia: Eulenburg's disease, 145
VON RECKLINGHAUSEN'S disease, 58
RECTUS sheath, congenital dermoid of, 144
Ridlon (**J.**), scoliosis with pressure paralysis of lower limbs, 293
RINGWORM in public elementary schools, 241
Riviere (**Clive**), Tuberculosis and How to Avoid It (review), 303
da Rocha (**N.**), diphtheria of conjunctiva, 295
ROCKEFELLER Foundation International Health Commission: Annual Reports (reviews), 159, 304
Rodenheiser (**E. W.**), facial paralysis possibly due to brain tumour, 283
Rolleston (**J. D.**), diphtheria in first year of life, 64
— hereditary and familial von Recklinghausen's disease, 58
— isolated nasal diphtheria, 21
Rosenow (**E. C.**), **Towne** (**E. B.**), and **Wheeler** (**G. W.**), ætiology of epidemic poliomyelitis, 128
Rouèche (**H.**), thermal springs and baths in France for treatment of children, 234
Roy (**K. A.**), see *Ott* (W. O.).
ROYAL Medical Benevolent Fund, War Emergency Fund of (correspondence), 235
ROYAL Society of Medicine, Section for the Study of Disease in Children, 50, 112, 194, 276
— — of Electro-Therapeutics, 198
— — of Obstetrics and Gynæcology, 199
— — of Ophthalmology, 277
Rubenstone (**A. I.**), potassium permanganate test in cerebro-spinal fluid, 132
Rugh (**J. T.**), Siamese twins, 59
Ruh (**H. O.**), **Miller** (**M. J.**), and **Perkins** (**R. G.**), studies on diphtheria (summary), 68
— see *McClelland* (J. E.).
Rutelli (**G.**), cerebro-spinal meningitis from streptothrix, 136
— prophylactic vaccination against varicella, 71
Ryttenberg (**C.**), unusual fracture of both bones of leg. 291

Sachs (**E.**), intracranial telangiectasis, 290
Sainton (**P.**), acute hemiglossitis in measles, 70
Salanier (**M.**), see *Netter* (A.)
SALICYLATES in treatment of scarlet fever, 221
Salmond (**R. W. A.**), changes observed in osteomyelitis, 198
Sarabia, retropharyngeal abscess opening into left bronchus, 78
SARCOMA of prostate, 151
Satre, treatment of whooping cough, 222
de Saussine (**B.**), **Bertrand** (**G.**), and **Androtsellis** (**H.**), sarcoma of prostate, 151
SCARLET fever, ætiology of, 69
— phlebitis in, 70
— treatment of, by salicylates, 221
— — with fresh blood from convalescents, 221
Schamberg (**J. F.**), bacterial vaccines in skin diseases, 279
Scharlieb (**M.**), The Hope of the Future: Management of Children in Health and Disease (review), 156
SCHICK test for diphtheria, 65, 66, 67
Schlapp (**M. G.**), available means for research and prevention in mental deficiency, 143
SCHOOLS, public elementary, ringworm in, 241
Schultz, see *Ramond.*
SCLEROSIS, multiple, in whooping-cough, 136
SCOLIOSIS and pressure paralysis, 293

Secher (**K.**), renal aplasia and venæ cardinales resistentes, 147
Sequeira (**G. W.**), grouped comedones, 214
Serum, Flexner's, treatment of epidemic cerebro-spinal meningitis, 74
— — of poliomyelitis, 227, 228
— — of infantile paralysis, 227
— — of melæna neonatorum, 276
— see also *Diphtheria.*
Serumtherapy, antimeningococcal, 224
— and post-diphtheritic paralysis, 220
Sharpe (W.), operative treatment of brachial plexus paralysis, 292
— results of cranial decompression in cerebral spastic paralysis, 292
Sheaff (**P. A.**), electrically-lighted speculum for vulvo-vaginitis, 61
Shears (**G. P.**), Obstetrics, Normal and Operative (review), 80
Sheill (**S.**), infantile tetany, 141
von Sholly (**A. I.**), **Blum** (**J.**), and **Smith** (**L.**), therapeutic value of pertussis vaccine in whooping-cough, 222
Sialodochitis and sialolithiasis in childhood, 204
Siamese twins, 59
Sibley (**W. K.**), treatment of psoriasis, 215
Sigmoid, lymphosarcoma of, 209
Sill (**E. M.**), obstruction of pylorus, 204
Simon (**H. T.**), see *Perret* (J. M.).
Sindoni (**M.**), meningococcus carriers in attendants on meningitis cases, 74
Sisson (**M. R.**), experimental studies of intestinal flora, 210
Smith (**D. C. Wharton**), acute myelitis following varicella, 71
Smith (**E. T.**), metastatic meningococcal infection of eye, 295
Smith (**J. S. Kellett**), some points on lateral curvature of spine, 107
Smith (**L.**), see *von Sholly* (A. I.).
Smith (**W. A.**), epidemic cerebro-spinal meningitis treated with Flexner's serum, 74
Snell (**A. C.**), and **Raby** (**J.**), ependymitis, 136
Sophian (**A.**), specific treatment of infantile paralysis, 227
Southwark (**T. S.**), early morning toxic vomiting in children, 204
Spasmophilia, present-day therapeutics of, 232
Speculum, electrically-lighted, for vulvo-vaginitis, 61
Spencer (**H. R.**), imperforate hymen, 151
Spheno-maxillary fossa, ganglioneuroma of, 289
Spirochætes, selective action of, 296
Spinal muscular atrophy, Werdnig-Hoffmann type, 52
Splenic enlargement, 195
Spolverini (**L. M.**), cholesterin and urea in cerebro-spinal fluid, 133
Squarti (**G.**), Bier's venous stasis in tuberculous meningitis and hydrocephalus, 231
Stammering, 143
Staphylococcia with xerodermia, 214
Status lymphaticus from the clinical standpoint, 198
Stenosis, diphtheritic, rare complication of, 79
— hypertrophic, in infants (L. E. Holt), 161
— of pylorus, see *Pyloric stenosis.*
Stephens (**H. D.**), poliomyelitis: epidemiology, pathology, symptomatology, 129
Stephenson (**S.**), diagnostic value of tubercle of choroid, 296
Stern (**A.**), neurotic manifestations, 143
Surgical Contributions for 1881–1916, by R. Morison (review), 156
Sutherland (**G. A.**), dermato-myositis, 57
— Modern Aspects of Heart Disease (review), 302
Sutherland (**H. G.**), Pulmonary Tuberculosis in General Practice (review), 154
Syphilis, acquired, in infants; with remarks on crèches (G. Pernet), 168
— as an ætiological factor in Mongolian idiocy, 219
— congenital, 215, 216
— — Landau's reaction in, 217
— hereditary, 216
— parental, as cause of feeble-mindedness, 219
— with neurological symptoms simulating other conditions, 218
— see also *Lues.*
Syphilitic bone and joint lesions simulating tuberculosis, 217
Syphiloids, so-called "post-erosive" of Jacquet, 217

Talmey (**M.**), predisposing factors in poliomyelitis, 129
Tarbox (**H. R.**), umbilical polyp, 288
Taylor (**E.**), serum treatment of poliomyelitis, 228
Taylor (**W. J.**), congenital equino-varus, 200
Teeth of children, how to save, 203
Telangiectasis, intracranial, 290
Teratoma, 115
de los Terreros (**C. S.**), giant hydrocephalus, 139
Terry (**W. I.**), congenital stenosis of duodenum, 205
"Tetanism," so-called, 141
Tetany, infantile, 141
Thermal springs and baths in France for treatment of children, 234
Thomsen's disease, see *Myotonia.*
Thomson (**J.**), myotonia congenita (Thomsen's disease), 144
— violent screaming and photophobia caused by dentition, 203
Thrombosis following measles, 126

Thymus (enlarged) treated with X rays, 117
Tonsil, conservative treatment of, 77
— indictment of the, 77
Tonsillectomy, dangers and complications of, 77
— for diphtheria carriers, 68
— heart failure during; heart massage; recovery, 42
— standard, 77
Toomey (**N.**), myotonia (familial), probably intermittent Thomsen's disease, 145
Torsion spasm, progressive (dystonia musculorum deformans), 146
Tournier, see *Nobécourt.*
Towne (**E. B.**), see *Rosenow* (E. C.)
Toxæmia, intestinal, and albumosuria, 149
Tracy (**E. A.**), Bárány's sign in epileptics and school children, 301
Transplantation of bone and arthroplasty of elbow joint, 116
Traquair (**H. M.**), see *Paterson* (J. V.).
Trichinosis, 147
Tubercle of choroid, diagnostic value, 296
Tuberculide, papulo-necrotic, 52
Tuberculosis and How to Avoid It, by C. Riviere (review), 303
— of joints, treatment of, 294
— Pulmonary, in General Practice, by H. G. Sutherland (review), 154
— simulated by syphilitic bone and joint lesions, 217
Tuberculous infiltration (extensive) of thoracic contents and brain, 115
Tubes in diphtheria, effect of prolonged use, 65
Tumour, congenital dermoid, of rectus sheath, 144
— of bladder. 150
— of brain, 137
— malignant, of kidney, 148
Tunnielff (**R.**), see *Mathers* (G.).
Typhoid fever in children, 72
— — unusual case, 116
— ulcer perforated, 73

Unconscious mental life of the child, 142
Ureters, multiple, with hydronephrosis, 148
Urinary tract, colon bacillus infection of, and ruptured appendix, 208

Vaccination, prophylactic, for varicella, 71
Vaccine, antityphoid, new, 223
— therapy in whooping-cough, 222
— — in suppurative otitis media, 76
— — new methods of, in Malta fever, 224
— treatment (successful) of erysipelas migrans and multiple abscesses, 73
Vaccines, bacterial, non-specific activity of, 278
— — in skin diseases, 279
Vaccines, use and limitations in general medicine, 280
Varicella followed by acute myelitis, 71
— hæmorrhagic, 71
— producing corneal ulcer, 295
— prophylactic vaccination for, 71
Vas (**J.**), carotid aneurysm simulating retropharyngeal abscess, 78
Yeeder (**B. S.**), intravenous and intramuscular administration of diphtheria antitoxin, 219
— and **Jeans** (**P. C.**). observations of 100 cases of hereditary syphilis, 216
Venæ cardinales resistentes and renal aplasia, 147
Victoria, Education in: Report for 1914–15 (review), 159
Vignolo-Lutati (**C.**), so called "post-erosive syphiloids" of Jacquet, 217
de Villa (**S.**), malignant tumour of kidney, 148
Vincent's micro-organisms, infection of ear with, 75
Vision of the school child, 302
Visual defects, refractive and functional, 301
Vitiligo, 114
Vomiting, cyclic, with acetonæmia (acidosis); remarks on non-diabetic acetonuria and diaceturia (F. Parkes Weber), 33
— early morning toxic, 204
— in infancy, 204
Vulvo-vaginitis in children, electrically-lighted speculum for use in, 61
— prognosis, 151
Walker (**I. C.**), see *Haller* (D. A.).
Walker (**N.**), dermatology and child welfare, 211
Wallace (**C.**), treatment of anterior poliomyelitis, 226
War-shock: The Psycho-Neuroses in War Psychology and Treatment, by M. D. Eder (review), 238
Ward (**Gordon**), the infective theory of acute leukæmia, 10
Wassermann reaction, value of, in mental deficiency, 219
Watson (**E. A.**), extreme fæcal impaction, 288
Weaver (**G. H.**) and **Rappaport** (**B.**), Schick test for diphtheria, 66
Weber (**F. Parkes**), bilateral optic nerve atrophy, 197
— cerebral degeneration and epileptiform fits, with amaurosis, 176
— cerebral diplegia with abnormal flexibility ("atony" or "hypotonia") of ankle-joints, 31
— congenital heart disease in mental defective with negroid-Mongoloid facies, 26
— — hirsuties ("Simian type"), 272

Weber (**F. Parkes**), congenital word- and letter-blindness — congenital alexia, with agraphia, without aphasia, 183
— cyclic vomiting with acetonæmia (acidosis); remarks on non-diabetic acetonuria and diaceturia, 33
— (?) juvenile tabetic bilateral optic nerve atrophy, 195
— lipodystrophia progressiva, 81
— — in a male, 179
— Mongolism with congenital cataract, 267
Wells (**C. W.**), serum treatment of acute poliomyelitis, 227
Wells (**J. R.**), hygroma of neck, 117
WERDNIG-HOFFMANN type of spinal muscular atrophy, 52
Weyl (**E. M.**), unusual case of typhoid fever, 116
Wheeler (**G. W.**), see *Rosenow* (E. C.).
Whipham (**T. R.**), fragilitas ossium, 114
— precocious sexual development, 114
White (**C. J.**), see *Blaisdell* (J. H.).
White (**E. H.**), suppurative otitis media, 75
WHOOPING-COUGH complicated by multiple sclerosis, 136
— treatment of, 222
— vaccine therapy in, 222
Williams (**L. R.**), study of fatality of chickenpox, mumps, and German measles, 72
Wilson (**J. A.**), visual defects, refractive and functional, 301
Wilson (**J. G.**), some important factors affecting incidence of measles and fatality therefrom, 70
Wise (**F.**), congenital syphilis, 215
Wolfrom (**Mme.**), see *Netter* (A.).
Woolley (**P. G.**), see *Ransohoff* (J. L.).
Wood (**A. J.**), infantile paralysis, 132
WORD- and letter-blindness, congenital—congenital alexia, with agraphia, without aphasia (F. Parkes Weber), 183

XERODERMIA with staphylococcia, 214
X-RAY treatment of enlarged thymus, 117

Yates (**J. L.**), and **Bunting** (**C. H.**), results of treatment in Hodgkin's disease, 230
Yearsley (**Macleod**), a retrospect of otology, 47

Zamboni (**G.**), multiple sclerosis in whooping-cough, 136
Zingher (**A.**), the Schick test for diphtheria, 65, 67, 68
— treatment of scarlet fever with fresh blood from convalescents, 221

ADLARD AND SON AND WEST NEWMAN, LTD., LONDON AND DORKING.

b.

A.

THE BRITISH JOURNAL
OF
CHILDREN'S DISEASES

FOUNDED BY GEORGE CARPENTER, M.D.

EDITED BY
J. D. ROLLESTON, M.D.

VOL. XV

London
ADLARD & SON & WEST NEWMAN, LTD.,
BARTHOLOMEW CLOSE, E.C.
1918

[*All rights reserved*]

PRINTED BY ADLARD AND SON AND WEST NEWMAN, LTD.

LONDON AND DORKING

THE
BRITISH JOURNAL
OF
CHILDREN'S DISEASES.

Vol. XV. JANUARY—MARCH, 1918. Nos. 169–171.

Original Articles.

INTERMITTENT FEVER FROM MENINGOCOCCAL SEPTICÆMIA.*

By Arnold Netter,
Membre de l'Académie de Médecine, Médecin de l'Hôpital Trousseau, Paris.

In January and February, 1879, less than three months before his death, in two lectures published in the 'Lancet' on May the 3rd and May the 10th, 1879, Murchison made a study of intermittent fever and endeavoured to elucidate the characters by which the different varieties might be distinguished. Apart from malaria, Murchison mentioned eleven possible causes of intermittent fever, including syphilis, the febrile manifestations of which have given rise to several communications during the past and present year.

He was of opinion that his list was by no means complete, and had no doubt that other causes of intermittent fever would be discovered. Intermittent fever of meningococcal origin, which has formed the subject of several communications during the last few years, justifies Murchison's forecast. We have already mentioned the subject on several occasions, especially in a lecture published in 1914 in the 'Monde Médical,' and we think that we should dwell upon it in greater detail.

Intermittent fever of meningococcal origin, which yields so readily to serum treatment, as we shall see, is not a very frequent occurrence. We have, in fact, found it in only 5 out of 368 cases. It has been more common in our private cases, viz. in 3 out of 90. This is no doubt due to the fact that children brought to hospital have received less careful attention in the initial stage. Our first four cases have already been reported with their temperature charts at the meetings of July the 28th, 1899, and December the 21st, 1908, and in the February number of the 'Monde Médical.'

---

* A paper read before the Société Médicale des Hôpitaux on October the 12th, 1917.

We will now give a short account of our last case, in which I was called in consultation in June by Dr. Mignon, of Vesinet.

A boy, aged 15 years, who had always enjoyed good health, was seized with slight malaise from June the 2nd to June the 5th. On the evening of the 4th the temperature was 102·4° F. Dr. Mignon saw the child for the first time on the 5th and noted a dirty tongue and patches of erythema. He ordered a liquid diet and a purgative to be taken the following day.

On June the 7th the eruption assumed the type of erythema multiforme, in which the nodose element predominated and was most marked on the limbs. There were vague pains in the joints, which suggested rheumatism.

The following week the temperature rose to 104° F., with wide and rapid oscillations, the rises of temperature being associated with fresh eruptions of erythema. Low diet, aspirin, milk, and vegetable broths. An infective erythema was suggested. The oscillations became more marked, the morning temperature being normal or subnormal.

The idea of an intermittent fever seemed all the more likely, as there was a hospital in the neighbourhood containing malarial patients and among them autochthonous cases of intermittent fever attributed to the bites of mosquitoes, which were remarkably numerous this summer.

Quinine was given without producing any effect. The erythema multiforme persisted, accompanied by a few petechiæ. There was no prostration and no nervous symptom was detected. The pulse rose from 80 to 90. The urine was normal and contained no albumin.

Examination of the blood showed no agglutination of typhoid or paratyphoid bacilli. From June the 25th to June the 30th improvement took place, and the temperature fell, but the erythema persisted.

In the night of June the 30th–July the 1st the child woke up suddenly at 2 p.m. with an intense headache which nothing would relieve. The headache lasted all the day of July the 1st–July the 2nd. On July the 2nd there was obstinate constipation, Kernig's sign, dermographism, and vomiting. The left tibio-tarsal joint was swollen, and there were some petechiæ over the external malleolus. The diagnosis of meningitis appeared probable.

I was called in consultation on July the 3rd. The appearance of the child was certainly that of meningitis. Lumbar puncture gave issue to turbid fluid, and was immediately followed by injection of 30 c.c. of antimeningococcal serum (20 c.c. of serum B and 10 c.c. of serum A.) On the two following days the injections were repeated in the same doses.

On July the 6th only 25 c.c. were injected, consisting of serum B exclusively. It was found that the cultures of the meningococci obtained were agglutinated by the serum B.

After the first two injections the child complained of intense headache which was relieved by injections of morphia. After the second puncture there was no fresh eruption. After the fourth injection the temperature became normal, and only rose again on the 11th, at the time of a serum manifestation, which was, however, of only short duration. The headache disappeared after the fourth puncture. The child made a complete recovery.

It is thus clear that the clinical picture before the appearance of the meningeal phenomena was that of an irregular intermittent fever with attacks which were quotidian and sometimes tertian, the paroxysms occurring sometimes in the morning and sometimes in the evening. In the interval between the attacks the child very often had an entirely normal appearance, as was the case in two infants whose temperature charts appear in the 'Monde Médical,' and in the patients of Œttinger, Marie, Joltrain, etc. The symptoms of intermittent fever were the onset with shivering, the termination by sweating, and the increase in the size of the spleen. Confusion, therefore, was very easy. Pains in the joints are common, but they are not infrequent in malarial attacks.

There is only one set of symptoms which has often been noted which should arouse suspicion, viz. the cutaneous phenomena. In one patient there were crops of erythema with a few petechiæ. In one of Marie's patients and in that of Chevrel and Bourdinière and in those of Salomon and Liebermeister there was erythema multiforme or erythema nodosum. In Lancelin's case there was purpura. In Œttinger and Marie's first case, as in that of Barrel and Coulomb there were lenticular rose spots.

We have several times insisted on the frequency of these eruptions in meningococcal infections. It must, however, be admitted that they may be absent in other cases. They were found in only one of my 5 cases, and were not mentioned in the cases of Bonnel and Joltrain.

In most of the patients the diagnosis was not made until after the appearance of the meningeal phenomenon, which was often very late, *e. g.* the 15th, 21st, and 25th days in four of my patients, the 26th, 37th, and 70th in those of Pierre-Louis Marie, the 28th and 40th days in Joltrain's case, and not till two months in Salomon's patient. The fever is generally very soon mastered by serum treatment. In the present case the disease was jugulated by four injections, and in two others by three and six injections respectively. The use of polyvalent serum is all the more indicated, as the meningococci are often atypical. There is, therefore, every reason for making a diagnosis as soon as possible. In the cases of Salomon, Liebermeister, Marie, Monziols and Loiseleur, and Chevrel, the pathogenic agent was revealed by a blood culture.

In other cases this method failed, and it is always indispensable for the specimen of blood to be taken at the time of a febrile attack. Other means of investigation should not be neglected, and among these we would recommend cultivation of the nasopharynx, which we practise as a routine measure.

Cultivation of the blood or of the nasopharynx, or, on the other hand, the investigation of the agglutination and of the precipito-reaction in the serum may be employed in those rare cases in which the meninges are not affected by the meningococcal infection.

In cases of meningitis, injection into the spinal canal has been generally employed. It is certainly the most efficacious method. Subcutaneous injection has been recognised to be inadequate.

Intravenous injection is more dangerous. We should be all the more unwilling to have recourse to it in subjects whose infection is of old standing at the time of their first intravenous injection, as this method has several times given rise to grave symptoms as in one of our cases and in those of Marie, Boidin and Lemierre, and Chevrel. In the last case in which the intravenous injection was made, the patient was in a state of anaphylaxis.

In several patients the symptoms occurred at the time of the first injection. The long duration of the infection had rendered the subject hypersensitive.

CONCLUSIONS.

Meningococcal infection may assume the clinical appearance of typical intermittent fever, quotidian or tertian.

The attacks often coincide in such cases with the appearance of an eruption, such as erythema nodosum, erythema multiforme, or purpura. But these eruptions, which might arouse attention, are often absent.

In the majority of cases symptoms of cerebro-spinal meningitis succeed these febrile attacks, but they may not appear for one or two months or more. Meningitis may even be absent altogether.

The diagnosis must be made by bacteriological examination. In the absence of the results supplied by examination of the cerebro-spinal fluid, which can only be obtained at a late stage, blood cultures and cultures from the nasopharynx will supply valuable information. The intermittent attacks, like the other manifestations of the meningococcal infections, rapidly give way to serum treatment. Serotherapy may, indeed, cause an alarming reaction soon after the first injection. It is, therefore, more advisable to substitute intrathecal injection, which is less dangerous than the intravenous one, which is apparently the more logical method.

REFERENCES.

(1) Murchison.—"Clinical Lectures on the Cause of Intermitting of Paroxysmal Pyrexia and on the Differential Characters of its Several Varieties," 'The Lancet,' 3–10 mai 1879.

(2) Netter.—"Un cas de méningite cérébro-spinale prolongée. Bons effets des ponctions lombaires pratiquées à onze reprises. Modifications du liquide," 'Soc. méd. des Hôp.,' 28 juillet 1899.

(3) *Id.*—"Traitement de la méningite cérébro-spinale suppurée. Bains chauds prolongés. Ponctions lombaires répétées. Collargol. Efficacité du sérum anti-méningococcique," 'Soc. méd. des Hôp.,' 11 décembre 1908.

(4) *Id.*—"Les méningites cérébro-spinales frustes," 'Le Monde médical,' 15 février 1914.

(5) Monziols et Loiseleur.—"Deux cas de méningococcie sans méningite," 'Soc. méd. des Hôp.,' 25 février 1910.

(6) Chevrel et Bourdinière.—"Septicémie méningococcique à caractère de fièvre intermittente," 'Soc. méd. des Hôp.,' 29 juillet 1910.

(7) Barrel, Coulomb et Couton.—"Un cas de septicémie paraméningococcique traitée par le sérum antiparaméningococcique," 'Soc. méd. des Hôp.,' 20 juin 1912.

(8) Œttinger, Pierre-Louis Marie et Baron.—"Un nouveau cas de septicémie à paraméningocoques avec épisodes méningés à répétition," 'Soc. méd. des Hôp.,' 2 mai 1913.

(9) Bonnel et Joltrain.—"Méningites cérébro-spinales latentes," 'Soc. méd. des Hôp.,' 21 janvier 1916.

(10) Pierre-Louis Marie.—"Deux cas de septicémie prolongée à type pseudo-palustre avec épisode méningé tardif dus à des germes voisins du méningocoque. Guérison par le sérum polyvalent antiméningococcique," 'Soc. méd. des Hôp.,' 9 février 1917.

(11) Lancelin.—"Méningococcémie à caractère de fièvre intermittente au déclin d'une méningite cérébro-spinale," 'Soc. méd. des Hôp.,' 12 octobre 1917.

(12) Salomon.—"Ueber Meningokokkenseptikæmie," 'Berl. klin. Wochens.,' 19 novembre 1902.

(13) Liebermeister.—"Meningokokkensepsis," 'Münch. med. Wochens.,' 2 septembre 1908.

JUVENILE CONSUMPTION AND SCHOOL ATTENDANCE.

By W. C. Rivers, M.R.C.S., D.P.H.,
Tuberculosis Officer, Barnsley District, West Riding, Yorks.

There are in connection with the subject of tuberculosis a number of observations which the few of real experience in the matter will all accept, whatever their other differences. For example, that trauma must be mentioned in the ætiology of nearly every, and that recidivisim dogs the course of every, form of the disease; that there is no "drink or stink" which has not at some time or other been vaunted as a specific remedy for consumption, only to pass quickly into the limbo of the forgotten; that the temperature is an all-important guide to treatment, while physical examination of the lungs is hardly ever a guide at all; that, except in face of the obvious, there is nothing certain about the prognosis of phthisis except that the prophet will be wrong; that on occasion lung collapse therapy (even in its distant results) may be as effective and favourable as the tone in which a man quotes his own conversation—such things as these are instances of general propositions which are really as axiomatic as what we find in every text-book. I should like to propose an addition to their number. That is, that bating of course the acute disease of infantile years, what is actually responsible for the most part of juvenile phthisis is school attendance; not by way of facilitating infection, but from the strain it throws on juvenile constitutions.

The experience from which this little generalisation springs is chiefly the sight, again and again and again, of the certainty with which renewal of school attendance brings about renewal of symptoms, in other words, relapse; and to a less extent the receipt of a history of the same occurrence, or of illness dating from soon after school age. Let us have this experience, for what it is worth, in some detail, before going on to what is possible in the way of verification of the theory, and to arguments for and against it. There is no need to remind an audience of pædiatricians that juvenile phthisis is in every way of a much lighter and more favourable complexion than the adult form of the disease, as also that it is much more often "closed," sputum-less or positive-sputum-less, and so non-infective, as also that educational authorities are rightly anxious for children to miss school as little as may be. It is a question then of always having to make such notes in the case-sheets as these:

E. E—. excused from school in May; tried school again in January; poorly again in March.

A. E. D—, went to school at usual age, but soon got cough and blood-spitting, on account of which was kept away for a year. Returned, but was irregular in attendance for two years. At the end of that time was sent by the school medical officer to the dispensary for pulmonary tubercle.

L. D—, seen in the autumn and excused school until after the Whitsun holidays following. In May ill again and had to leave school again.

M. A—, excused school in October, until March, when she went back. In April already ill again, and again excused. In November the attendance officer began urging the mother for the child's return; re-investigated the case and found that the child was not being made use of at home, but was following out proper treatment. Forbade child's return to school.

G. H—, excused school March, 1915. Disease became quite quiescent, and on January the 1st, 1916, child returned to school. In February cough worse, in May still worse, and child continually missing days. Excused school again. In September tried school half time only. In April, 1917, ill again, bad cough and a pleuritic rub; excused again. In May again in good health, which she keeps until the early days of 1918, when failure of the milk supply and increasing shortage of food induce some slight return of symptoms, but not such a bad return as the several previous ones.

Indeed, this last case is one in which the patient, unusually resistant to chronic pulmonary tubercle even for a child, had a slight amount of disease; and in instances of this kind it would often be possible, although of course most inadvisable, by just varying school days with holidays to induce in turn relapse and re-quiescence with a regularity almost analogous to that of an electric "make and break" commutator. Then as to histories. So-and-so "was the strongest boy in the county till he went to school." In another case: "I don't know what's the matter with the child. *She can't stand school.*" Of a third: "It's such a disappointment his going like this, he was always such a strong child." Again: "She's never at school for more than three weeks together, it always makes her ill." All these were quite young children who would have been no use at home. The charge against parents of keeping children at home ostensibly for health reasons but really to get work out of them is in my experience nearly always unjustified. The working class mother has generally got her hands pretty full, and appreciates the relief of not having to look after some of her children. Practitioners not infrequently send children up as being ill and irregular at school. And where the history of a "pneumonia" is given, which doubtless represented the primary infection, such "pneumonia" is by no means always in infantile years; quite often it occurred when the child was at school. Inability to stand schooling may even give a clue to the tuberculous nature of the disease. Thus, L. T— came to the dispensary with bad impetigo of the scalp and very slight pulmonary signs, was diagnosed non-tuberculous, and in due course returned to school. In eight months' time she was back again, and on examination clear signs of tubercle of the left upper pulmonary lobe were found.

Lastly, a medical man in charge of an open-air school* tells me that the children's ability to stand ordinary school life seems to vary directly with the length of their stay at the special institution. After, say, six months there they can go six months or so at the regular school without breaking down; after a year, some may manage ordinary school attendance without breaking down at all; after eighteen months, more will manage—and so on.

So much for personal experience in this matter. But what support can personal experience find in the far more reliable general experience? Directly, very little, for text-books in their passages on juvenile phthisis seem to leave such a practical affair as school attendance quite out of mention. For an indirect test we must of course resort to published statistics. Now from 1900 to 1915 the Registrar-General's returns have always showed a greater phthisis mortality at ages 0–5 years than at ages 5–10 years, and also (except in 1915) than at ages 10--15 years. German statistics given by Cornet † give the same result. Since school attendance only becomes compulsory at five years old, this at first sight goes against the idea that school attendance has a good deal to do with juvenile phthisis. Such a deduction leaves out of count, however, the fact that juvenile, as distinguished from infantile, pulmonary tuberculosis is notoriously of a benign type. We know that tuberculosis of all kinds is very deadly to infants, that children resist consumption extraordinarily well, and that adults occupy a sort of mean between these two extremes. But the commonly quoted returns just mentioned deal only with deaths; they have nothing to do with illness merely, with the slight chronic consumption of children at school age that may persist for years. So that what is needed for a real test of our thesis is, as for so many other questions, figures relating not to mortality but to morbidity. Morbidity statistics, being rarely compiled, are of course hard to get. All that I have been able to find on the point in question is a three-year record of the medical policlinic at Halle, communicated by its Prof. Nebelthau.* In the three years 1900–1903 this clinic was attended by 16,847 children, of whom 375 had consumption; and of the 375 fifty died of it. The age distribution of these three totals—16,847, 375, and 50—is as follows, the third column being obviously morbidity statistics, and the last mortality statistics:

---

* Mention of open-air schools will suggest the query why all these recidivistic tuberculous children were not packed off to these places before they had time to show recidivism. The answer is that even in a well-provided area like the West Riding, open-air school accommodation (which to my knowledge was totally absent as late as 1913 elsewhere in one of the largest industrial regions in the country) is far from being adequate to the demands upon it.

† Cornet, 'Die Tuberkulose,' Wien, 1899.

Age in years.	Number of sick children.	Number consumptive. per cent.	Number dying of consumption.† per cent.
Under 1	3698	9 (0·2)	9 (0·2)
1–	2228	12 (0·5)	8 (0·3)
2–	1523	12 (0·7)	7 (0·4)
3–	1309	13 (1·0)	5 (0·3)
4–	1192	22 (1·8)	6 (0·5)
5–	800	13 (1·6)	3 (0·3)
6–	954	17 (1·7)	2 (0·2)
7–	851	20 (2·3)	3 (0·3)
8–	727	21 (2·8)	—
9–	562	24 (4·2)	2 (0·3)
10–	678	34 (5·1)	1 (0·1)
11–	605	36 (5·9)	—
12–	797	47 (5·9)	—
13–	597	55 (9·2)	1 (0·1)
14–	326	40 (12·3)	3 (0·9)
	16,847	375	50

Now, taking the last column first, these *mortality* statistics agree very well with the much larger and more reliable (as being calculated on the national population of each particular age instead of on a population of hospital patients) ones of the British Registrar-General. The Registrar-General's figures gave proportionally more deaths from phthisis under school age than in later years of childhood. So do the Halle statistics, for 35 out of the 50 deaths occurred at ages under five. But the *morbidity* statistics tell a very different tale, the proportion of children with consumption being much greater at than below school age. This obvious opposition, which Nebelthau himself points out, between the "lethalität" and the "mortalität" of the malady under notice, this broad result (in statistics it is only the professional mathematician who can look at anything else, and he only with great caution) does, it is claimed, in spite of the fallacies unavoidably involved, somewhat strengthen the case put forward in this paper.

---

* Nebelthau, "Phthisis der Kinder," art. in Schröder u. Blumenfeld's 'Handbuch der Therapie der chronischen Lungenschwindsucht," Leipzig, 1904.

† In all save three cases verified by post-mortem examination.

Tuberculosis being a notifiable disease, morbidity statistics can be obtained by looking up notifications. During the last two and a half years the practitioners in my district notified 104 cases of pulmonary tuberculosis in subjects under 15 years of age (14 years is the latest age for ordinary school attendance). The age distribution of the 104 is as follows :

Under 1 year	3	8–	17
1–	6	9–	13
2–	5	10–	11
3–	4	11–	3
4–	4	12–	10
5–	4	13–	6
6–	6	14–	4
7–	8		
			104

These morbidity figures, like Nebelthau's, show much more phthisis at, than under, school age, especially when it is remembered that there are naturally many more children living at early ages than at later ones; in other words, that the available tuberculisable population is larger the younger the age taken.

Of course, there is the fallacy that the longer a human being lives in the world, the more chances of tuberculous infection he runs; but, for what they are worth, these figures certainly do not show a steady rise in morbidity with age.

Another objection might be that the more acute disease of infantile years is harder to recognise. It is doubtless the case that in infants acute tuberculous pulmonary disease is sometimes diagnosed as capillary bronchitis or simple broncho-pneumonia. Still, such acute pulmonary tubercle in infants often ends with the picture of tuberculous meningitis and general tuberculosis. Now the notifications in my district contain for the two-and-a-half-year period already mentioned, 20 notifications of tuberculous meningitis and general tuberculosis, and the age distribution of these 20 cases is as below:

Under 1 year	2	8–	3
1–	3	9–	—
2–	—	10–	2
3–	—	11–	—
4–	1	12–	1
5–	3	13–	1
6–	1	14–	—
7–	3		
			20

The conclusion from which figures is that tuberculous meningitis and general tuberculosis seem to be diseases of school age too.

Lastly, in order to check the possible fallacy that the excess of consumption of school age might be only apparent, and due to extra opportunities of diagnosis at school age, because of school medical inspection, I have taken 96 otherwise unselected cases where the child was sent to the dispensary not by the school medical officer, but by the general practitioner. Again they show excess at school age:

Under 1 year	1	8–	10
1–	1	9–	12
2–	2	10–	15
3–	2	11–	10
4–	4	12–	9
5–	9	13–	8
6–	5	14–	6
7–	2		
			96

* * * *

If school predisposes the scholars to consumption, how does it do it? Not by facilitating infection, obviously, because the relapses described so frequently above occur much too quickly for that. It must predispose as so many other phthisis-favouring factors predispose, namely by lowering the general health. The general health may be lowered in various ways, and the first way that suggests itself, in connection with education, is nervous strain.

This probably counts, but I have found it prominent only in two cases. In one, on two occasions, as soon as the child knew that its return to school was fixed for a future date, it began to lose weight every week. The mother stated that it used to worry a great deal over home preparation of next day's lessons. In the other, a boy did better at home than at the open-air school. Nervous strain cannot be a strong influence, because nowadays children like going to school, will even, when sick, play truant from home to get there. That, by the way, is a change—the disappearance of the "creeping like snail unwillingly"—for which educational authorities have not had enough credit. I think the active factors must be the indoor confinement (teachers in lower-class schools are rather subject to consumption) and the restraint. For what stock-breeders regard as the first essential in the rearing of the young of every domestic species is freedom in the open air. Now, during the holidays, even in winter, the working-class child runs straight out into the streets and stops there, playing with his fellows, until summoned in to a meal. There are disadvantages, of course—the dust in summer, the motor-cars, the unedifying sights; but, after all, he is in an analogous position to the puppy at "walk" (which means that it walks where it likes) or the lamb in the fields. Moreover, the younger the child, or the foal, or the puppy, or the chicken, the more important this freedom is—which is why one reads of the proposals for a great extension of infant schools with an apprehension that seems likely to be justified unless they are run on the most easy-going plan possible, and as altogether open-air institutions. Quite likely playing in the streets is the very making, the very saving, of the constitution of the proletariat's rising generation.

To recapitulate, the child's relapse on leaving home for school again seems comparable with the adult's relapse on leaving the sanatorium for his former daily work. In the latter case it was certainly environment which helped to break down his resistance to tubercle; in the former case it was, in all probability, environment too. When educationists speak of the ravages of tuberculosis and of deterioration in national physique, and quote the figures of school medical officers, I am reminded of the hackneyed but irreplaceable image of the monster of Frankenstein. Nevertheless, human culture has, of course, strong claims. It might be worth while seeing how far it is possible to introduce into council and borough schools real open-air conditions, to make of them something like an ancient academy. The experience of the 'Waldschülen' on the Continent and at places like Bostal Wood would be a useful guide.

HÆMANGIECTATIC HYPERTROPHY OF LIMBS—CONGENITAL PHLEBARTERIECTASIS AND SO-CALLED CONGENITAL VARICOSE VEINS.

By F. Parkes Weber, M.A., M.D., F.R.C.P.

There is a kind of congenital or developmental hypertrophy and dilatation of arterial and venous trunks, especially those of one of the upper limbs—a tumour-like hæmangiomatous overgrowth in the vascular system, which may be, I think, roughly compared to conditions of plexiform (also called vermicular or cylindrical) neuroma (German, "Rankenneurom")—one kind of "elephantiasis nervorum"—in the nervous system. Both the arteries and the veins of an extremity may be involved, and sometimes the communication between the arterial channels and the venous channels may be so free that a definite kind of thrill or pulsation, rhythmical with the heart's contractions, is transmitted to the veins, as in cases of arterio-venous anastomosis of traumatic origin. The condition is best termed "congenital or developmental phlebarteriectasis," and in its most typical forms is seen confined to one of the upper or lower extremities, but cirsoid aneurysms and plexiform hæmangiomata (plexiform, racemose, or anastomotic aneurysms—German, "Rankenangiom"), as met with about the scalp and face, are probably sometimes of the same nature.

When (as in Bockenheimer's case—see further on) in one of the extremities the phlebarteriectasis is almost confined to the veins (congenital or developmental "phlebectasis"), *i. e.* when the arteries are only slightly affected in comparison with the veins, we get an example of one kind of the rare so-called "congenital varicose veins."

Phlebarteriectasis may be associated with ordinary kinds of capillary or venous angiomata, just as in some cases of von Recklinghausen's disease (neurofibromatosis) plexiform neuromata may be associated with ordinary neurofibromata of the skin and subcutaneous tissue.

An extremity affected by congenital or developmental phlebarteriectasis is practically always longer than its fellow, and this increase in size of the limb has sometimes been spoken of as gigantism or giant-growth. But in cases of typical true gigantism or giant-growth (as met with especially in one or two fingers or toes) the hypertrophy is much greater, and the blood-vessels are not specially involved; that is to say, not more than the other tissues.

of the hypertrophied part. For the hypertrophy of a limb connected with congenital or developmental phlebarteriectasis I now prefer the term "angiectatic or hæmangiectatic hypertrophy."

Cases of this kind of hypertrophy of limbs have been described under various headings, and they should be especially differentiated from cases of the type of hypertrophy met with in hemihypertrophy. The latter type may, I believe, be limited to one of the four limbs, or sometimes the lower limb on one side of the body may be affected together with the upper limb on the other side (so-called "crossed hemihypertrophy"). Hemihypertrophy is not rarely associated with the presence of ordinary kinds of hæmangiomata, but is not associated with typical phlebarteriectasis; that is to say, it is not associated with excessive, congenital or developmental hypertrophy and dilatation of the arterial and venous trunks in the affected part.

From what is known as congenital (or early developmental) trophœdema or "trophic œdema" of extremities (H. Meige, etc.), which sometimes runs in families, hæmangiectatic hypertrophy of limbs may be distinguished by the absence in the former of the vascular abnormalities associated with the latter condition, and likewise by the absence in the former of actual increase in the length of the bones of the affected limbs (1).

Amongst examples of congenital or developmental phlebarteriectasis, with hæmangiectatic hypertrophy of limbs, I shall first allude to Sir Thomas Smith's case, which he described in 1882, as one of "Angiectasis of the Hands and Fingers" (2). The patient was a female, aged 25 years. The affected hand was much larger than its fellow, and its temperature higher. The subcutaneous tissue was occupied by dilated and tortuous veins. The arteries of the fingers, hand, and forearm were greatly enlarged and somewhat tortuous. When the hand was lightly grasped a purring thrill could be felt. According to the mother, the hand seemed normal till the patient was one and a half years old.

H. Braun (3) and his pupil Läwen (4) have contributed valuable papers (1902 and 1903) on the subject. The latter explains the condition of general diffuse phlebarteriectasis as a spontaneous or idiopathic, progressive dilatation of the blood-vessels of the affected portion of the body, the dilatation involving the arteries, capillaries, and veins of the part; he thinks, however, that the process is not associated with any actual new formation of blood-vessels. Läwen gives a very detailed account of the case demonstrated by H. Braun, in November, 1901, before the Medical Society of Leipzig. The patient was a man, aged 43 years, whose right upper extremity had been more or less affected by the phlebarteriectasis from childhood, and the case was a typical one. Läwen has carefully reviewed and classified earlier cases described by Letenneur (1859) (5), Krause (1862) (6), Nicoladoni (two cases, 1875 and 1877) (7), A. Obalinsky and T. Browicz (1875) (8), and Fischer (1880) (9). It was Karl Otto Weber (10) who first separated off the group of cases, which he called "Genuine Diffuse Phlebarteriectasis," and in which there is not necessarily any abnormal arterio-venous anastomosis present, from the well-known traumatic cases of varicose aneurysm connected with abnormal arterio-venous anastomosis. In phlebarteriectasis, he said, the affected extremity was generally an upper not a lower one.

Philipp Bockenheimer (11), in 1907, carefully described an example of genuine diffuse *phlebectasis* (as opposed to *phlebarteriectasis*) of the whole left upper extremity. The course of the arteries was normal, and there was no abnormal communication to be discovered between arteries and veins. Examination of the arteries showed only slight sclerotic changes. The presence of an ascending pulse in the veins was explained as due to extreme dilatation of the capillaries connecting the arteries with the veins. The humerus of the affected (left) side was longer by one centimetre than that of the normal (right) side, and Bockenheimer compared this increased bony growth to the thickening of bones sometimes met with in cases of chronic valvular diseases of the heart.

Ebstein (12) has met with three cases of phlebarteriectasis. The first involved diffusely the whole left upper limb of a man, aged 24 years, and that extremity was 5½ cm. longer than its fellow of the right side. The second case was that of a girl, aged 14 years, whose right forearm was 3 cm. longer than her left forearm. The third case was that of a man, aged 49 years. His left upper extremity, well shown in the photograph figured in Ebstein's account, felt decidedly warmer than the right upper extremity, and was an excellent example of phlebarteriectasis. The left forearm was 2 cm. longer than the right forearm. There was no evidence of any cardiac disease or abnormality. Ebstein speaks of these three cases as being the ninth, tenth, and eleventh described in the literature of the subject. He regards the condition as mostly congenital, and thinks that (as K. O. Weber pointed out) one of the upper extremities is more often affected than one of the lower extremities.

A special kind of *congenital varicose veins in extremities* may possibly be due to congenital obstruction in the main venous trunks of the affected limbs. Pierre Lereboullet (13) and Louis Petit, at the

Société Médicale des Hôpitaux de Paris (February the 7th, 1914), demonstrated a case of the kind, namely, that of a man, aged 52 years, with congenital varicose veins of the left upper extremity. The consequent progressive swelling and deformity was associated with a fragility of the bone, evidenced by an ununited fracture of the forearm. L. H. Petit (14), who is referred to by the above-mentioned writers, collected together in 1880 various examples of congenital varicose veins of the arms, possibly due to congenital obstruction in the subclavian vein. J. Brau-Tapie (15), in 1914, collected about a dozen cases of congenital varicose veins of the lower extremities, in some of which capillary angiomata were likewise present. An example of congenital varicose veins of the right lower extremity in a man, aged 38 years, was figured in 1914 by H. Simon (16). The case of congenital "elephantiasis" of the right arm in a child (17), described and figured by C. T. Dent in 1910, might have been due to congenital obstruction in the main venous channel of the affected limb, or possibly it was a genuine example of congenital phlebarteriectasis; but the condition seems to have been associated with extensive lymphangiectasis and with cavernous angioma.

The following cases may represent *lesser forms of true phlebarteriectasis.* At the Society for the Study of Disease in Children C. O. Hawthorne (18), in 1902, showed a boy, aged 10 years, with hypertrophy of the right lower limb, which was 3 cm. longer than its fellow. The skin of the right foot and of the right leg was unduly warm, the veins were prominent, and the arteries both in front of and behind the ankle-joint were apparently dilated. On the dorsum of the foot were certaiu patches which gave rise to some discussion, but which in my opinion were hæmangiomatous, or partly lymphangiomatous. At the same Society, in the same year, A. B. Roxburgh (19), showed a female child, aged 5 years, with varicose veins of the left lower extremity and a large cavernous angioma on the outer side of the left knee. There was slight alteration in the length and shape of the tibia on the affected side. At the Clinical Society of London, in February, 1903, T. H. Kellock (20), showed a female child, aged 8 years, with a varicose condition of the right internal saphenous vein; the right leg was rather more than 1 cm. longer than the left.

About 1907 I saw a case of a somewhat different class. The patient was a child, aged 12 weeks, with a condition of diffuse superficial cutaneous angioma involving nearly all the left side of the body and the left limbs, and most of the head. The left upper and lower limbs were decidedly larger in circumference than the right ones, but (as yet) there was no obvious difference in length between the corresponding long bones of the two sides (21). With this case may be compared one described by J. Fletcher Little (in 1893) of a girl, aged 15 years, who had been born with a condition of diffuse superficial cutaneous angioma, involving nearly the whole of the right half of the body. The bones of the right extremities were longer than those of the left, the right leg measuring about 5 cm. in length more than its fellow (22). The increased size of limbs associated with the angiomatous conditions in these last two cases doubtless borders on the class of "angio-elephantiasis," as described long ago by Virchow and Hebra.

References.

(1) Weber, F. Parkes.—"Hæmangiectatic Hypertrophies of the Foot and Lower Extremity, Congenital or Acquired," 'Med. Press,' London, 1908, cxxxvi, p. 261.

(2) Smith, Sir Thomas.—'Trans. Clin. Soc. Lond.,' 1882, xv, p. 198.

(3) Braun, H.—"Phlebarteriektasie der rechten oberen Extremität," at the Medical Society of Leipzig, report in the 'Muench. med. Wochensch.,' 1902, xlix, p. 163.

(4) Läwen.—"Ueber die genuine diffuse Phlebarteriektasie an der oberen Extremität," Deut. Zeitschr. für Chir.,' Leipzig, 1903, lxviii, pp. 364–390.

(5) Letenneur.—'Gaz. des Hôp.,' Paris, 1859, p. 122.

(6) Krause.—"Traumatische Angiektasie des linken Armes," 'Archiv für klin. Chirurgie,' 1862, ii, p. 142.

(7) Nicoladoni.—'Arch. f. klin. Chir.,' 1875, xviii, p. 252; and 1877, xx, p. 146.

(8) Obalinsky, A., and Browicz, T.—"Zitzungsber. d. Acad. d. Wiss. Krakau," abstract in the 'Centralblatt für Chirurgie,' 1875.

(9) Fischer.—'Deut. Zeitschr. für Chir.,' Leipzig, 1880, xii, p. 29.

(10) Weber, K. O.—Article in the 'Handbuch der allg. und spez. Chir.' (Pitha and Billroth), vol. ii, Division ii, Part i, p. 158.

(11) Bockenheimer, P.—"Ueber die genuine diffuse Phlebektasie der oberen Extremität," 'Festschrift f. G. E. von Rindfleisch,' Leipzig, 1907, pp. 311–338.

(12) Ebstein.—'Festschrift f. von Strümpell,' 'Deut. Zeitschr. f. Nervenheilk,' Leipzig, 1913, xlvii and xlviii, pp. 67–73; also "Ueber Phlebarteriektasie," 'Med. Gesellschaft zu Leipzig,' October the 23rd, 1917, report in 'Muench. med. Wochenschr.,' 1918, lxv, p. 28.

(13) Lereboullet, P., and Petit, L.—'Bull. et Mém. Soc. Méd. des Hôpitaux de Paris,' 1914, 3e sér., xxxvii, p. 231.

(14) Petit, L. H.—'Union Médicale,' Paris, 1880, 3 sér., xxix, pp. 316, etc.

(15) Brau-Tapie, J.—'Arch. gén. de chir.,' Paris, 1914, viii, pp. 26, 38.

(16) Simon, H.—At the Breslauer chirurg. Gesellschaft, May the 14th, 1914, report in 'Berliner klin. Wochenschr.,' 1914, li, p. 1199.

(17) Dent, C. T.—'Proc. Roy. Soc. Med.,' Sect. Stud. Dis. Child., 1911, iv, p. 24.

(18) Hawthorne, C. O.—'Rep. Soc. Stud. Dis. Child.,' London, 1902, ii, p. 114; and 1905, v, p. 1.

(19) Roxburgh, A. B.—*Ibid.*, 1902, ii, p. 222.

(20) Kellock, T. H.—'Trans. Clin. Soc. Lond.,' 1903, xxxvi, p. 254.

(21) Weber, F. Parkes.—"Angioma-Formation in Connection with Hypertrophy of Limbs and Hemi-hypertrophy," 'Brit. Journ. Derm.,' Lond., 1907, xix, p. 231.

(22) Little, J. Fletcher.—'Trans. Clin. Soc. Lond.,' 1893, xxvi, p. 243.

TWO CASES OF PNEUMOCOCCAL MENINGITIS.*

By Mme. G. Panayotabon,
Alexandria.

We thought that it would be of interest to describe these two cases of pneumococcal meningitis, and also the cultural and biological characters of the diplococcus isolated from the cerebro-spinal fluid, in view of the rarity of cases due to this infective agent.

Case 1.—A girl, aged 10 years, was admitted on December the 21st, 1916, to the Hospital of the Greek Community at Alexandria, under the care of Dr. Isamis. About a year previously, on arrival from her native Cyprus with her relatives, she was treated with two other children of the same family for malaria at the polyclinic of the same hospital and had been cured by Dr. Rallis.

Two days before her admission to hospital, according to her mother's account, the child was suddenly seized with slight shivering and vomiting. She complained of a severe headache and seemed extremely prostrated. She was very constipated. On the third day her high fever and the gravity of her general condition compelled her parents to take her to hospital. When we saw her she was plunged in a sort of torpor, and did not answer any of the questions put to her, but was constantly whining and lay in the gun-hammer position. The head was slightly retracted and resisted any attempt to straighten it. There was a little opisthotonos and cutaneous hyperæsthesia. Kernig's sign was positive. The vomiting had ceased, but the constipation persisted. Pulse, 128. Temperature, 103·2° F. Lumbar puncture, which was performed by Dr. Afentoulis, gave issue to a turbid fluid with a purulent deposit consisting of 95 per cent. of polymorphonuclears. On microscopical examination we found extra- and intra-cellular diplococci; 20 c.c. of anti-meningococcal serum were injected.

The following day the temperature was 103·4° F., and her pulse 132. The muscles of the back and nuchal region were in a state of contracture.

The child was constantly complaining and was very restless. In the evening, however, the temperature fell to 101·2° F., and to 98·2° F. on the following morning, the pulse keeping below 130. Examination of the eyes showed strabismus, mydriasis, and considerable diminution of the pupillary reflexes.

---

* A paper read before the Société Médicale des Hôpitaux de Paris on October the 12th, 1917.

A fresh lumbar puncture was made and another 20 c.c. of serum were injected.

The two injections remained without any effect, the thermometer registering 103·8° F. and the pulse 132. The general condition grew worse every hour and the patient died on the fourth day of her admission to the clinic, in spite of another drop of the temperature to 101·2° F., the pulse remaining at 132. Culture of the pus on Loeffler's serum showed diplococci staining by Gram, the characters of which we shall describe below.

Case 2.—The sister of the above, aged 7 years, was admitted one evening to hospital in an unconscious state. Temperature 102·6° F., pulse 125, thready, compressible, and irregular. Nuchal rigidity and stiffness of the vertebral column. The muscles of the lower limbs were in a state of contracture. Kernig's sign positive. Examination of the eyes showed contracture of the right superior rectus, which kept the eyeball directed upwards, marked mydriasis, and a loss of reaction of the pupils to light. Lumbar puncture gave issue to a turbid fluid with a purulent deposit. Microscopical examination showed 98 per cent. of polymorphonuclears and very numerous diplococci, a large number of which were intracellular. One would almost have thought that the fluid contained a culture of diplococci. The morphological appearance of the diplococcus exactly resembled that of the previous case. An injection of 20 c.c. of antimeningococcal serum was given, but the child died in the night.

These two cases present the following noteworthy features :

(1) The gravity of the clinical form caused by the pathogenic agent.

(2) The two cases occurring in the same family within the space of a few days (epidemic focus).

(3) The absolute inefficacy of antimeningococcal serum.

(4) The absence of carriers among the other members of the family examined by us.

The mother told us that the elder girl was always running about the streets in the very poor and dirty native quarter where they were living, and that there had been a fatal case of cerebro-spinal meningitis in a native girl living behind their house. We could not discover whether this case of meningitis was due to the same micro-organism as our two cases.

Characters of the diplococcus isolated from the cerebro-spinal fluid.—The diplococcus was easily stained by aniline dyes, and was stained by Gram. Cultivation on Loeffler's coagulated serum showed a very thin layer of growth which was hardly visible, and at first sight one would have been inclined to say that there was no growth at all. The isolated colonies were small, hyaline, not prominent, and resembled drops of dew. Cultivation on Loeffler's serum, to which human blood had been added, gave a more abundant culture. On microscopical examination of these cultures we found small cocci elongated in the shape of a candle-flame in groups of two, forming diplococci facing each other by their pointed ends. Several of them were surrounded by a thick gelatinous zone, forming a clear oval mark on the pink ground-work of the preparation. This was the negative of the capsule. The following cultures on Loeffler's serum showed cocci in the form of diplococci without capsules, but still lancet-shaped.

Cultivation on *young rabbits' serum* brought into view again very distinctly the capsule of the diplococcus.

On broth, the culture hardly made the fluid turbid, and formed a small deposit after two or three days' incubation.

Broth containing rabbits' serum yielded a more abundant culture.

In *liquid serum* the culture had the same characters as in broth.

On *agar-agar* there was no growth.

Bile.—Two-tenths of ox bile in 3 c.c. of a twenty-four hours' broth culture dissolved the diplococcus in twenty minutes; direct examination and culture did not show the presence of any micro-organisms. Bile on which the diplococcus was grown became clear in ten minutes. In Hiss's medium it caused fermentation of inulin.

Sugars.—In litmus peptone water with sugars it caused fermentation of glucose, lactose, saccharose, and maltose.

Injection into mouse.—Subcutaneous injection killed the mouse in three days.

Injection into rabbit.—Subcutaneous injection of a twenty-four hours' culture into a rabbit's ear caused œdema of the ear in twenty-four hours. This œdema soon invaded the whole head, and especially the soft parts of the lower jaw. The animal died in a cachectic state some days later.

The fluid of the œdematous region in the ear contained numerous capsulated diplococci from which pure cultures were obtained. The heart-blood of the dead rabbit grown on the serum of a young rabbit showed a pure culture of capsulated diplococci.

All these characters prove that the pathogenic micro-organism in both these cases was the pneumococcus.

The presence of two cases of pneumococcal meningitis in the same family (in spite of the rarity of meningitis due to this pathogenic agent), the absence of carriers among other members of the family, the severity of the cases, and the absolute failure of antimeningococcal serum, appeared to us to be sufficient justification for recording these cases.

CLINICAL NOTES ON MEGACOLON.

By Charles Greene Cumston, B.S., M.D.,

Privat docent at the University of Geneva; Honorary Member of the Surgical Society of Belgium, etc.

Geneva, Switzerland.

In the brief remarks that are to follow on the subject of megacolon, I would say that no reference will be made to this pathological process in adults, and that the pathogenic theories so far offered will not be discussed, as they are quite contradictory, and have thrown little, if any, light on the subject. However, from the pathological viewpoint the process may be defined as an enormous dilatation of the colon, with elongation of the large intestine and hypertrophy of its wall. The Italian school, Concetti* in particular, has given much study to the histological changes occurring in megacolon, and at present they may be considered as consisting of a total hypertrophy of the walls of the gut, disappearance of the epithelium, a diffuse inflammatory infiltration of the submucous and muscular layers and a considerable hypertrophy of the intestinal muscle, especially notable in the circular fibres.

At operation or autopsy, what strikes one most is the extraordinary size of the colon, which often fills the abdominal cavity. The site of this dilatation is rather variable; the ectasis may involve the entire colon or only one of its segments. The contents of the dilated gut are composed of fæces and may be in such quantity as to form veritable tumours. In a case recorded by Formad,† the colon harboured forty-seven pounds of stercoral matter.

The older writers on the subject maintained that the walls of the dilated colon were very thin; but in the light of our present knowledge, we know that such cases were in reality instances of microcolon which had undergone passive dilatation.

---

* Concetti, 'Arch. f. Kinderheilk.,' 1899, xxvii, p. 319.

† 'Univ. Med. Mag.,' 1892, iv, p. 625.

When the gut is incised the mucosa is found highly congested, its folds are effaced or flattened down, while not infrequently numerous ulcerations are to be seen.

In the newly born the process may manifest itself at once by retention of the meconium, or at a somewhat later date by obstinate constipation with, at the same time, an increase in the size of the abdomen; but I would point out that the commencement of the condition may be late and insidious in its symptomatic manifestations. Two clinical signs dominate the symptomatic picture of megacolon, namely, *obstinate constipation* and *abdominal distension*, while the other symptoms result merely from changes arising in these two signs or from the development of some complication.

The constipation, which often makes itself evident in early infancy, may ultimately result in the acute phenomena of intestinal occlusion. It pursues a progressive increase, but it is interrupted by copious fœtid diarrhœal discharges which momentarily empty the gut, or at least partially.

The evacuation of intestinal gases is frequent, the flatus being remarkable from its extreme fœtidity, quantity, and the violence of emission, the act being usually involuntary.

Vomiting is mentioned in about 33 per cent. of the reported cases in no way related to attacks of acute obstruction. The nature of the pain complained of varies, but usually it is vague, the patient having more the sensation of weight in the abdomen than real pain. When the intestinal contents are not voided for some days, or if an attack of occlusion is imminent, the pain may become intense.

A quite common symptom in children is tetany, which accompanies the evacuation of the loose, watery *débâcles*. The paroxysms of tetany are unquestionably the result of an intoxication due to intestinal putrefaction.

The general health of the patient may be seemingly good, but in most instances general symptoms make their appearance, they being due to a reaction on the part of the organism. At first there is more or less anorexia, but after a complete intestinal *débâcle* the appetite returns, though it is of short duration.

The little patient is pale, thin, and without strength. At the time of the paroxysms of occlusion the face is pinched, ashen in hue, the extremities cold and cyanotic. Some writers have referred to psychic disturbances undoubtedly due to stercoræmic intoxication.

Cardiac weakness, frequent palpitation, oliguria, rarely a rise in temperature, but more commonly hypothermia, complete the general symptomatology of megacolon. Fever is hardly ever met with until the complete development of the process, and is then frequently caused by some complication.

The grand *finale* is made evident by an extreme cachexia, short, rapid respiration, small pulse and cold, clammy extremities, the scene ending in coma.

The most important sign offered by physical examination of cases of megacolon is the abdominal distension. This symptom strikes one at the first glance at the patient. The aspect of the belly is characteristic, being globous and markedly prominent. The skin is smooth and shiny, with a well-developed venous circulation which may be readily detected under the skin.

Upon direct examination of the abdomen exaggerated peristaltic movements are clearly seen under the abdominal parietes. They may be general throughout the abdomen, or only occur over a limited area and always at the same spot. Although sometimes devoid of pain, the peristalsis is more prone to set up violent suffering, especially marked during prolonged attacks of constipation.

Abdominal palpation is not apt to give any particular diagnostic data, but percussion will give a generalised tympanitic note, frequently even excluding hepatic dulness. Not uncommonly an area of dulness will be found, indicating an accumulation of fæces.

These fæcal tumours vary in size, and may be very hard, although usually they are soft, and retain the imprint of the examining fingers. They are *very mobile*, a symptomatic point of importance, and one never to be forgotten.

Combined rectal and abdominal palpation will give some idea of the situation of the fæcal masses and at the same time reveal the condition of the rectum and anus. A bismuth test with radioscopy will give useful data as to the shape and position of the colon, and should always be employed.

In many cases the diagnosis of congenital megacolon is easily made, but occasionally there may be some doubt as to whether or not the case is one of the large abdomen of rickets. However, the fact that megacolon may occur in rickets must never be forgotten.

Congenital megacolon must sometimes be differentiated from the various forms of tuberculous peritonitis, or, perhaps, from tuberculous mesenteric lymph-nodes. A rise in temperature, the presence of ascites, etc., will eliminate the diagnosis of megacolon.

The complications of megacolon are many. Acute intestinal occlusion is the most serious and is very frequent and quite likely to be the reason for first detecting the real condition of affairs, when, after the abdomen is opened for the relief of the occlusion, a megacolon is discovered. This happened to me not long since in a female child, aged 8 years.

Sometimes the distended and infected colonic walls may undergo an ulcerative process, this giving rise to green, liquid and very offensive stools. Slight intestinal hæmorrhage may also occur, but it is not serious, although quite symptomatic of ulceration. The ulcers may perforate, resulting in fatal peritonitis, but this complication is unquestionably of extreme infrequency.

Compression of the iliac veins by the distended colon may result in œdema of the abdominal parietes, while pressure on a ureter has been observed.

But the cardio-pulmonary system is the one most prone to suffer from the effects of pressure. It is made manifest by dyspnœa, which may amount to orthopnœa, and cases have been recorded in which serious asphyxial phenomena with cyanosis have occurred.

Upward pressure on the diaphragm can cause important displacement of the heart, and abdominal distension results oftentimes in cardiac failure, palpitation, and dilatation of the right heart.

Phenomena of stercoræmic intoxication are all related to the same pathogenesis, namely, a retention of the intestinal contents. Paroxysms of tetany are not uncommon and are always of grave import.

Megacolon is prone to give rise to rickets.

The prognosis of this process in children is always serious, as medical treatment is practically useless. In adults, the outlook is somewhat better.

Colotomy has been resorted to to cope with the accidents of acute occlusion only, the mortality having been, so far, 50 per cent. Iliac colostomy has given a mortality of about 35 per cent.

A number of surgeons, regardless of the resulting infirmity, prefer cæcostomy to all other procedures, and I am inclined to adopt this view with certain restrictions. In a suitable case for primary colectomy I should be tempted to employ Paul's technique, using the largest tubes.

Colopexy is simple and safe, and when employed in properly selected cases, which in practice I assume to be rarely met with, the results have been satisfactory and the mortality *nil*.

Simple entero-anastomosis is said to produce atrophy of the useless colonic segment, and by the short circuiting obtained prepares the intestine for a more radical operation later on, such, for example, as colectomy and anastomosis.

To conclude. In constipated children, a properly-directed medical treatment with laxatives may be essayed, but if, after reasonable trial nothing is accomplished, it becomes incumbent upon the medical man to seek the surgeon's advice. The less needless delay there is and the earlier the child is seen the better will be the outlook for the patient.

In the following bibliography of megacolon only the more important recent literature on the subject is given, and all articles prior to 1909 *are purposely omitted.*

Bibliography.

Audeoud.—'Rev. Méd. de la Suisse rom.,' 1918, xxxviii, p. 138.

Baumel.—'Journ. des Pract.,' 1910, xxiv, p. 401.

Bensaude, Gillard, et Ronneaux.—'Bull. et Mém. Soc. Méd. Hôp. de Paris,' 1911, xxxii, p. 41.

Biermans.—'Deutsche Zeitschr. f. Chir.,' 1910, cv, p. 261.

Blochmann.—'Berl. klin. Woch.,' 1911, xlviii, p. 564.

Broca.—'Traité de Chir. Infantile,' 1914.

Casiccia.—'Liguria Médicale,' 1911, p. 243.

Chatou.—'Arch. Méd. Chir. de Province,' 1911, vi, p. 533.

Clermont.—'Arch. Méd. de Toulouse,' 1912, xix, p. 66.

Cohen.—'Journ. Méd. de Bruxelles,' 1911, xvi, annexes 151.

Concoureux.—'Thèse de Bordeaux,' 1916, No. 57.

Culan, A.—'Thèse de Paris,' 1909–10, No. 192.

Delore.—'Rev. de Méd.,' 1911, xxxi, num. spéc., p. 229.

Frascella.—'Il Policlinico,' 1910, xvii, Sez. Chir., p. 180.

Froehlich.—'Prat. des Mal. des Enf.,' 1910, vii.

Gayet et Patel.—'Lyon Chir.,' 1911, v, p. 209.

Goebell.—'Arch. f. Chir.,' 1911, xcv, p. 921.

Grégoire et Duval.—'Bull. Soc. Chir.,' 1913, xxxix, p. 2.

Heller.—'Münch. Med. Woch.,' 1911, lviii, p. 1059.

Josselin de Jong, and Muskens.—'Journ. de Chir.,' 1910, v, p. 65.

Kummer, Patry, et Maillard.—'Rev. Méd. de la Suisse rom.,' 1913, xxxiii, p. 500.

Leggett, W.—'Brit. Med. Journ.,' 1911, i, p. 677.

Mauclaire.—'Bull. et Mém. Soc. de Chir.,' 1913, xxxviii, p. 108.

Meyer, O.—'Deutsche Med. Woch.,' 1913, xxxix, p. 416.

Morestin.—'Bull. et Mém. Soc. de Chir.,' 1910, xxxvi, p. 362.

Navarro.—'Bull. et Mém. Soc. de Chir.,' 1913, xxxix, p. 444.

Okinczyc.—'Revue de Chir.,' 1909, xl, p. 867.

Patel.—'Ann. Gyn. et Obstét.,' 1910, 2 sér., vii, p. 629.

Parkinson.—'Proc. Roy. Soc. Med.,' 1911, iv, Child. Sect., p. 75.

Pauchet.—'Bull. et Mém. Soc. de Chir.,' 1912, xxxviii, p. 1486, and 'Arch. Prov. de Chir.,' 1913, xxii, p. 17.

Péhu.—'Arch. Méd. des Enf.,' 1914, xvii, p. 53.

Pieri.—'Rivista Ospedale,' 1912, ii, p. 357.

Potter.—'International Clinics,' 1909, iii, p. 196.

Puls.—'Beitr. zur klin. Chir.,' 1910, lxix, p. 306.

Riche.—'Bull. et Mém. Soc. de Chir.,' 1911, xxxvii, p. 1365.

Roth.—'Inaug. Diss.,' Freiburg in Baden, 1914.

Schepelmann.—'Münch. Med. Woch.,' 1911, lviii, p. 2527.
Sorel.—'Arch. Prov. de Chir.,' 1911, xx, 533.
Strobel.—'Inaug. Diss.,' Leipzig, 1909.
Terry.—'Journ. Amer. Med. Assoc.,' 1911, lvii, p. 731.
Weil.—'Thèses de Nancy,' 1909–10, No. 29.
Zoepfel.—'Inaug. Diss.,' Strassburg, 1909; and 'Virchow's Archiv,' 1909, cxcviii, p. 119.

CONDITIONS SIMULATING DISEASE WHICH MAY BE PRODUCED BY TEETHING.

By James Burnet, M.A., M.D., M.R.C.P.Edin.

Most of us, I think, gather from studying text-books on pædiatrics that teething in itself is rarely the cause of serious symptoms, and that when the latter are present it is quite a mistake to attribute them to dentition. On the other hand, the laity very often tell us that infants cut their teeth to the accompaniment of diarrhœa, vomiting, eczema, convulsions, and so on. Certainly, a rachitic infant usually experiences more trouble in cutting its teeth than a healthy baby; but apart altogether from rickets I do believe that teething in itself, even in a perfectly normal and healthy infant, may give rise to serious symptoms, which, together, may form a complex simulating some more or less grave disease condition. The following brief notes of random cases which have come under my observation serve to prove the truth of this statement.

A. R—, a male infant, aged 18 months, non-rachitic, born of Jewish parents, was brought to my clinic at the Marshall Street Dispensary. It had been ill for three or four days. It presented the following features: Marked head retraction, extreme drowsiness, vomiting, somewhat irregular breathing, slow pulse, and obstinate constipation. The diagnosis naturally seemed at first sight to be (tuberculous ?) meningitis. A more careful examination, however, while it negatived apical pneumonia, showed that in all probability the cause of the symptoms was the cutting of a canine tooth. A suitable laxative was ordered, together with hot baths and a simple mixture to control the vomiting. The mother was lost sight of, however, until some months later she reappeared with another child. She told me that she had taken the former patient to the hospital two days after I had seen it, as the infant appeared to be no better. The physician who saw it there told her that there was inflammation of the brain, and that she had better take the baby home as it would not recover in any case. A week later, however, the symptoms completely disappeared when the offending canine tooth made its appearance.

M. S—, a female infant, aged 10 months, non-rachitic and very carefully brought up by a most intelligent mother. One day this infant suddenly developed very rapid breathing, with cough. The doctor who saw the baby within twenty-four hours of the commencement of the symptoms very naturally made a diagnosis of pneumonia, although he could make very little of the physical signs. This is a case where one could not be misled if the principle is carefully kept in mind that given certain physical signs in a chest case the diagnosis must be made accordingly, whereas their absence almost always precludes the possibility of disease in spite of symptoms. I was asked to see the patient on the fifth day. I could find nothing to warrant a diagnosis of chest trouble save only the very hurried breathing. The infant was very restless. On examination of the mouth the upper gums were much swollen and very red and dry. The patient screamed when any attempt was made to open its mouth. An incisor tooth was seen shining through the much swollen gum. I gave this as the cause of the trouble, and so it turned out to be, for no sooner was the tooth cut than the rapid breathing completely disappeared. I have seen quite a number of similar cases with which every pædiatrist must also be familiar, but they are certainly puzzling to the general practitioner.

P. W—, a male child, aged 2 years, with a non-rachitic history. He had previcusly been quite healthy, and had had very little, if any, trouble with dentition. He woke up suddenly one night, screaming. After lifting him out of his cot and giving him a warm drink he became quieter, but he vomited the milk which he had taken. He fell asleep again, but next day he vomited every meal. In the evening I was sent for, and found a child with pinched and drawn features, a rapid and very feeble pulse with a temperature of 103° F. Examination of chest and abdomen revealed nothing abnormal, nor did a rectal examination, which, by the way, should always be made in every doubtful case. There was nothing pointing to *B. coli* pyelitis, as the urine was being passed quite freely without pain or other symptom. At first sight it looked as if we had to deal with an abdominal case, but, again, examination of the mouth revealed the fact that the child was cutting one of his back teeth. The symptoms continued with only slight improvement until the twelfth day, when the tooth appeared and they passed off. By this time the child was very pale, and had lost much weight, but cod-liver oil and careful feeding soon restored him to complete health.

These three cases are, perhaps, somewhat out of the usual, but they go to prove the truth of my assertion that teething can give rise to serious symptoms, besides being quite a definite exciting cause of such conditions as diarrhœa, vomiting, eczema, bronchial catarrh, and convulsions, as well as of screaming fits and strabismus. In one case I have known facial paralysis induced by difficult dentition; and in older children chorea has been so caused, although probably in every one of my cases there was a predisposing rheumatic tendency operative as well. It would, therefore, in view of these observations, be most unwise to dismiss teething from our minds when face to face with difficulties in diagnosis in pædiatric practice. In the case of infants presenting obscure symptoms, especially where definite physical signs are absent or anomalous, I recommend that these four investigations should be carried out, viz. examination of the urine, rectum, throat, and mouth. I find that general practitioners, and sometimes consultants too, overlook at times pyelitis, intussusception, tonsillitis, and difficult dentition. The latter certainly deserves more respect than is usually accorded to it in text-books and by lecturers on pædiatrics. While it would be unwise in the extreme to put down every infant malady to teething, as parents generally do, it would be just as foolish to set this possible explanation of otherwise obscure symptoms aside altogether, as by so doing we may entirely overlook a most important cause of some puzzling combinations of symptoms.

PRIMARY SARCOMA OF THE LUNG.*

By J. Porter Parkinson, M.D.,
Senior Physician, Queen's Hospital for Children.

A boy, aged 5 years, was admitted to the Queen's Hospital for Children on October the 2nd, 1917. He had just been discharged from the surgical wards after an operation for inguinal hernia.

He complained of cough and difficulty of breathing, which had only been noticed since his discharge. His temperature varied between 101° and 102° F., his pulse from 130–160, and respiration from 40–60. He had orthopnœa and much dyspnœa on any movement. The whole of the left side of the chest front and back was dull, the movement was very limited especially below, and the breath-sounds were very weak and harsh. There was some ægophony at the angle of the scapula. The heart was displaced to the right, its deep dulness reaching to half-way between the right sternal edge and the right nipple. On the second rib close to its junction with the cartilage was a small lump the size of half a walnut, immobile and elastic but not fluctuating. The chest was explored and bloodstained fluid was withdrawn. Microscopically this fluid consisted almost entirely of blood, and no other cells could be distinguished and no organisms were found. A day or two later a large hæmorrhagic swelling appeared over the sternum, but soon disappeared. The child developed a severe paroxysmal cough, and gradually the dulness over the left lung extended across the sternum to the right and the displacement of the heart became much more marked. Wasting now became pronounced. In December he began to suffer from occasional attacks of dyspnœa with cyanosis, which were relieved by oxygen but became more frequent, and death took place on December the 14th, ten weeks after admission.

---

* Specimens of the case were shown at the Section for the Study of Disease in Children of the Royal Society of Medicine on January the 25th, 1918.

At the necropsy the whole of the left lung was a mass of soft, friable, hæmorrhagic growth, very firmly adherent to the chest-wall, diaphragm, and pericardium. Hardly any lung tissue remained. The growth extended well beyond the right edge of the sternum, compressing and causing collapse of the right lung, which was otherwise normal except for two small nodules of growth in the lower lobe. The glands at the bifurcation of the trachea were not enlarged; the bronchial glands were involved in the mass of the growth. The heart and pericardium were normal, but displaced so as to lie on the right side of the sternum. The nodule on the rib was about the size of a plum, and was continuous with the intrathoracic growth. All the other organs were normal. The microscopical appearance was that of a small, round-celled sarcoma.

A case almost identical with the above was shown before the Society for the Study of Disease in Children in 1906 by Dr. Langmead, who stated that since 1860 there had been only one previous post-mortem examination on such a case at the Great Ormond Street Hospital.

The signs, as in Dr. Langmead's case, were most suggestive of pleural effusion, and, curiously enough, a tumour on the second rib was present in both cases.

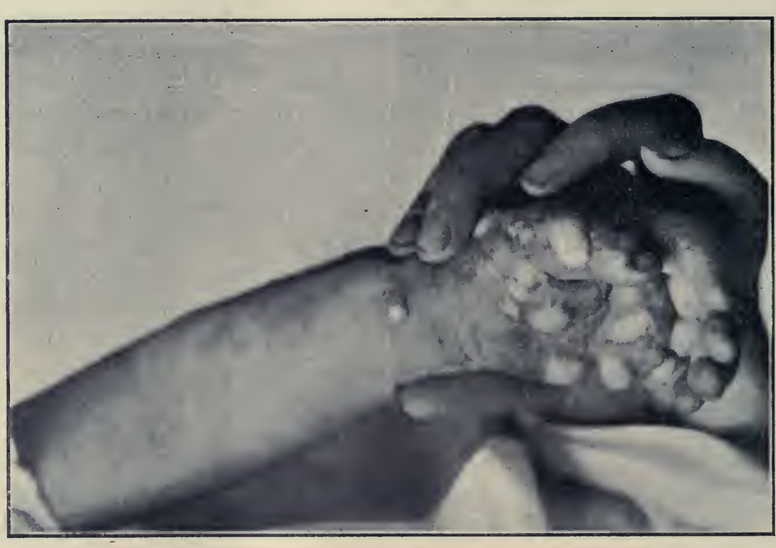
I am indebted to Miss Stogden, the pathologist, for the post-mortem notes of the case.

HERPES ZOSTER OF THE ARM AND HAND IN AN INFANT.

By George Pernet, M.D.,

Dermatologist to the West London Hospital and Lecturer on Dermatology West London Post-Graduate College.

Herpes zoster of the hand and of the foot is rare. I have seen but few instances of either, although a number of cases of herpes zoster have come under my notice and care. This is the first one of the kind I have observed in so young a subject. The patient was a male infant aged 18 months, which was brought to my clinic on August the 10th, 1917 (N. 5292). The duration was three days. There were three characteristic groups of vesicles on the lower part of the flexor surfaces of the left arm and on the forearm. But about the left hand and fingers there were a number of large bullæ coalescing here and there, and involving mainly the palmar aspect. The photograph brings out the appearances very well. The infant had had a bad attack of measles in the preceding June, and that was followed by diarrhœa and loss of weight. The child appeared pretty well nourished, however, when I saw it. The large bullæ were carefully snipped with scissors to get rid of the fluid contents and the hand and fingers dressed with boracic ointment. For the



Herpes zoster of the arm and hand in an infant.

other parts the following was ordered ℞: Lot. glycer. plumbi subacet. (1 in 8), lot. calaminæ āā., to be dabbed on. The case did well on this and made a good recovery.

Whether the attack of measles played a part in the production of the subsequent herpes zoster I cannot say, but it is quite possible, although I do not find the latter among the complications and sequelæ of measles mentioned by Osler, Fagge, or Trousseau.

THE SURGICAL TREATMENT AND CURE OF SUPPURATIVE OTITIS MEDIA CHRONICA IN CHILDHOOD.

By James B. Horgan, M.B., Ch.B.,
Hon. Laryngologist and Otologist to the North Infirmary, Cork.

If it be properly understood that the ultimate utility of the chronic suppurating ear of childhood will in a large measure depend upon the resultant disorganisation of the conductive apparatus or middle ear, and that the disorganisation will depend upon the length of time during which the disease has remained active it will be readily seen that all efforts at treatment should aim not only at obtaining but still more in maintaining a dry ear.

It must be clearly borne in mind that ear disease of this type in children is in the vast majority of cases secondary to interference with the natural drainage and ventilation, or to continuous reinfection of the middle-ear space, and that any treatment which fails to ascertain, and if present remove this exciting cause, must, *ab initio*, fail to do more than bring about a very temporary amelioration of the disease. Hence it should be our invariable rule thoroughly to ascertain in the first instance the obstructive or infective agent in the child's nose, pharynx, or mouth, and to effect its removal.

Such a statement, though it savours of the commonplace, may nevertheless, I am of opinion, when examined in all its bearings and interpreted in the light of recent knowledge, serve to explain why a not inappreciable percentage of these cases fail to respond to the routine treatment adopted, when the pharynx is nominally healthy or has been rendered so by surgical means.

A preliminary and exact examination of the patient's mouth, nose, and pharynx is, therefore, of paramount importance. To examine the naso-pharynx I have resort in the first instance to the naso-pharyngeal mirror. If, as generally happens, this is not tolerated, valuable information as to the condition of the mouth and oro-pharynx is, at any rate, obtained. Should the mirror prove impracticable, I ascertain by anterior rhinoscopy which nostril is the more patent and get the child to sniff up this side some weak cocaine-adrenalin solution from a piece of cotton-wool. It has, indeed, surprised me in what a large proportion of cases this simple expedient, aided by a little coaxing, has enabled me to attain my end. The resultant intranasal ischæmia and contraction rapidly permit of our estimating the size and disposition of any adenoids present. They may be more readily seen by getting the child to phonate. This method has the added advantage of enabling us to ascertain at the same time the presence of any gross intranasal abnormality. In refractory children this method may still be employed to the exclusion of all others; in these cases, however, it is necessary that the child be suitably and firmly held by the nurse assistant and that the solution be applied to the inferior meatus by a spray, or better, by means of a cotton-wool carrier under visual control.

I would here enter a protest against the digital exploration of this region. Apart from being unsurgical, it is a very potent factor in permanently destroying the little patient's confidence and goodwill. For some years I have quite ceased to use this method in my routine examination of cases. It is only justifiable in the very rare cases of suspected fibrosarcoma.

Adenoids, if present in any amount, should be removed. In this respect it is necessary to remember that the disposition and condition of any adenoid mass present is of equal, if not greater, importance than its size. A small but septic adenoid mass—aptly compared by Laurens to a septic sponge—when situated anywhere in the nasopharynx, but more especially in the neighbourhood of Rosenmüller's fossæ, is a very potent factor in the continual reinfection of the Eustachian tube and middle ear, even though its presence may in no sense interfere with respiration. A failure to diagnose the presence and effect the removal of such small septic foci is a frequent cause of the interrupted continuation of the ear discharge. I have on many occasions curetted the lateral aspects of a child's nasopharynx in cases in which the usual topical applications had failed to stop the ear discharge, and in which no macroscopic evidence of the existence of adenoids had previously been obtained. In a surprising number of these cases a cure rapidly resulted.

If any hypertrophic conditions of the inferior turbinals have been confirmed at the original examination they require reduction, which, if necessary, should constitute the first step of any operation undertaken for the removal of tonsils or adenoids or both. Further, if the child's nose be markedly obstructed on the affected side by a septal spine or deflection, I have now no hesitation in partially resecting this structure by the submucous method. I have done this in thirty-eight cases in children, the ages of whom ranged from 6 to 14 years, that is, under the age at which this operation is commonly supposed to result in facial deformity. In none of my cases has any subsequent disfigurement been complained of by the parents, though in many of the cases several years have elapsed since the operation. I attribute this fact to my making my primary incision as far back as possible and to my always keeping well away from the dorsum nasi. I may here state that it is the rule rather than the exception for me to combine these forms of surgical treatment with the removal of tonsils and adenoids, both in simple obstructive and in ear cases it rarely prolongs the operation by more than a few minutes, and as nasal plugs are at most necessary for a few hours, the danger of post-operative complications can hardly be said to be increased. A failure to appreciate the close connection between intranasal and nasopharyngeal abnormalities in the surgical treatment of suppurative otitis media in children is a frequent cause of indifferent or bad results.

To better illustrate my technique in operating on these cases, I will consider a case needing operation in all three regions—nose, naso-, and oro-pharynx. Preliminary dental treatment is advisable in most cases, and the mother should be instructed as to the necessity of making sure that the child cleans its teeth with due regularity both before and subsequent to operation. In those children old enough to use it, a thymol mouth wash is ordered as well. It should, in all cases, be ascertained, by an examination carried out immediately before operation, that any signs of acute angina of any part of the air-passages are absent.

Anæsthesia is induced by C.E. mixture, usually on a Silk's inhaler, which is taken off and applied at intervals. Five per cent. cocaine solution sometimes, with the addition of adrenalin, is usually applied to the lower nasal meatus and septal mucous membrane after the patient is under.

The child's head is slightly raised on one pillow, and a sandbag is placed below the occiput. Working with reflected light a very slight turbinotomy is performed with a sharp nasal scissors. This will often be unnecessary if the turbinal bone is simply protuberant by forcibly fracturing it at its attachment and dislocating it outwards with a strong, flat, nasal forceps. This manœuvre, which I have found in itself a most valuable and conservative means of relieving nasal obstruction of this type, is of special value in enabling the operator to visualise and remove with the cold wire snare the posterior turbinal enlargement that is so often present. To do this it is not at all necessary to insert the left forefinger into the nasopharynx to guide the snare as is often stated. The *tour de force* just described, aided by the ischæmia resulting from the cocaine, will enable the operator in all cases to attain his aim quickly if a suitable curve be previously given to the wire loop of his snare.

Gauze plugs having been inserted in the nose, and the anæsthetist having intimated that the patient is suitably under, the next step in the operation should be, if necessary, the removal of the tonsils. This is highly desirable in 95 per cent. of suppurative ear cases, and it is worthy of mention that the actual size of a child's tonsil is often very difficult to ascertain without actual palpation, which can, of course, be best carried out on the table.

The pillow and sandbag are removed by an assistant, and the tonsils enucleated by the method described by Pybus and Whillis. If a tonsil is very large or of the elongated variety two bites may be required, but I find this is very rarely necessary in children. With a little education of the tactile sense, the orientation of the instrument and the removal of the tonsils can be carried out entirely by touch. This conduces to speed, which is of extreme importance at this stage whilst the child is lying on its back, and it further obviates the undesirable use of sponges or mops. The trained finger, when rapidly swept between the faucial pillars, will have no difficulty in ascertaining if the removal has been complete. The time taken in removing both tonsils should rarely exceed ten seconds. Ambidexterity in the use of the tonsillectome is absolutely necessary for the safe, rapid, and complete removal of the tonsils. Upon its conclusion being signalled to the nurse, who stands with her assistant to the left of the patient, the child is rapidly lifted well over on its side for the removal of the adenoids. It is of great importance for the safety of the operation that the surgeon and his nurse assistant be in thorough working agreement, by which I mean that the latter knows, without verbal intimation, when, and in what manner, her services will be required.

The removal of the adenoids, though for obvious reasons reserved until the end, is, nevertheless, the most important of all surgical measures undertaken for the cure of chronic suppurative ear disease in children. It is, unfortunately, frequently performed in a haphazard, not to say dangerous, fashion.

Blind curettage of any cavity, least of all a cavity which must *à priori* be more or less septic, cannot be considered an ideal surgical proceeding, but let us at least reduce the risks to the reducible minimum. Quickness and precision are of the greatest importance. I use a curette of the Beckman type. It should be *sharp* and of suitable size. The operation is carried through with three sweeps of the curette. The central removes the main mass of the growth and the lateral its lateral prolongations. In ear cases I am in the habit of finishing the operation by inserting Hartmann's lateral curette, which, after proper orientation with the left forefinger, is swept rapidly from side to side so that the cutting edge engages and clears the upper part of each posterior choanal aperture and Rosenmüller's fossa of each or of the affected side.

The nose, mouth, and pharynx having been rendered as healthy as possible, our attention should then be directed towards the actual conditions prevailing in the middle ear. Polypi, if present, should be removed, and granulations cauterised with chromic- or trichlor-acetic acid.

As regards local treatment, the installation of warm drops of equal parts of hydrogen peroxide and 70 per cent. alcohol has given me the best results. The mother should be directed to instil the drops lukewarm, allow them to remain in the ear two or three minutes, dry them out with cotton-wool whilst tilting the head to the affected side, and then to repeat the whole procedure a second, or even a third time, immediately. Syringing with a warm alkaline or saline solution is only called for if the discharge is profuse or fœtid, conditions which will usually rapidly disappear under treatment. The intervals at which it is required will thus tend to increase from the inception of treatment. Cotton-wool should not be worn in the ear in the absence of profuse discharge, as the drying and healing properties of air and light are of great importance in curing these anaerobic infections. If the ear still fails to respond to treatment, a cure may, in many cases, be obtained by curettage of the isthmus and external end of the Eustachian tube as described by Yankauer. I curette the tube from its tympanic ostium under general anæsthesia, using Alexander's Eustachian curette in preference to Yankauer's instruments. The curettage should be very thoroughly performed, so as to destroy the mucous membrane of this part of the tube, but force is neither necessary nor free from risk. The procedure has enabled me to get a dry ear in about 60 per cent. of the selected cases in which it was tried. No ear in which the tympanic ostium of the tube is visible in the peforation should be subjected to a radical mastoid operation until this comparatively simple expedient has been given a trial.

From practical experience I have ceased to regard a postero-superior perforation as a sign that the antrum is irreparably involved and that a radical mastoid operation is *ipso facto* required. The antrum must, to some extent, be very often involved with the middle ear, but the means of clinical investigation at our disposal will rarely permit of our saying that if the source of infection be removed and adequate drainage re-established, the antrum has not sufficient recuperative power to cure itself. The common sources of infection, where they are to be found and how removed have already been detailed. Cases of demonstrable cholesteatoma or of chronic attic suppuration discharging through a small perforation are, of course, exceptions; but the latter—at least, in my experience—is of comparative rarity in children.

Finally, in a very small proportion of cases, such as those of scarlatinal or tuberculous origin or in which cholesteatomatous changes are present, anossiculectomy, or eventually a radical mastoid operation, is called for.

From practical experience in the after-treatment of many cases of Heath's modified operation performed by that surgeon himself, I cannot advise this operation which is designed to cure the antro-tympanic disease whilst conserving the remains of the conductive apparatus. It appeared to be only successful in those cases in which a much less radical form of surgical treatment would also have effected a cure.

What I wish particularly to point out is that the radical mastoid operation is still performed on children much more frequently than is necessary, and that this is due to a failure to understand and remove the underlying causes of the infective and obstructive process. In my own practice I have learnt to perform this operation on children with ever-increasing rarity. All who have performed it in any number of cases have experienced the ear that refuses to dry after operation because of a persistently unhealthy Eustachian orifice and tube. In these cases the radical mastoid operation should, in all probability, never have been performed.

In conclusion, it may not be out of place to repeat here that, inasmuch as prevention is better than cure, it should be remembered that in almost all cases chronic suppurative ear disease starts as an acute infective process which, as Woods has so well pointed out and proved in his own practice, may be readily cured with a minimum of injury to the special organ concerned in the space of a few weeks or less by simply treating the primary ear lesion on the same principles of aseptic surgery that are applied to other parts of the body, and thereby ensuring that an infection which, in the first instance, is due to a single micro-organism may not by external contamination rapidly become a multiple one.

When it is duly recognised in practice as well as in theory that the chronic suppurating ear of childhood is, in most cases, a direct sequence to the inefficient or faulty treatment of a simple acute middle-ear inflammation, and children are no longer discharged from fever hospitals with their ear lesions still unhealed, then, and only then, will the great number of these cases visiting every ear clinic show any sign of diminishing.

A CASE OF ANAPHYLAXIS.

By G. H. Waugh, L.R.C.P. & S.Edin.; L.R.F.P.S.Glasg.,
Rugby.

On November the 3rd last a girl, aged 17 years, was brought to my surgery by her mother, suffering from "dirty throat." I examined her and came to the conclusion that it was diphtheria, the membrane extending over both tonsils and the soft palate adjoining. I took a swab and my diagnosis was afterwards confirmed by Birmingham University. The girl was obviously ill, and I advised the mother that she should have an immediate injection of antitoxin. She agreed, and while preparations were being made she remarked: "Gladys had diphtheria ten years ago and the injection made her very ill." I questioned her about this and she described the effects as a "fit," in which the girl screamed, turned purple, and frothed at the mouth. Regarding the case as urgent I gave 4000 units of antitoxin (Burroughs & Wellcome) between the shoulders; one-half on each side of the middle line. The girl dressed and at once complained of headache, then sat down, looking very ill. I put her on the couch, but on her mother suggesting that she wanted to go to the lavatory (this being an effect of the injection of ten years previous) she got up, took one step, and collapsed in my arms. I laid her down and she died almost immediately; the time from the giving of the injection till death took place being not more than five minutes.

The visible effects at the time of death were: (1) Deep cyanosis without flush, the colour of the flesh being a livid dark blue, the lips nearly black; (2) great difficulty in breathing; (3) frothing at the mouth. The girl only spoke once, saying, "I can't breathe."

I at once communicated with the Coroner's officer and a post-mortem examination was subsequently made by Dr. C. R. Hoskyn, at which I was present. The only condition found was a general stasis with well-marked congestion of the lungs.

At the inquest the following points were raised:

(1) Why the girl came to my surgery? The mother stated that it was the girl's own wish and that she walked as well as she (the mother) did.

(2) Why the mother did not observe that the girl was ill before the day previous? The girl was at her work till mid-day and I defended the mother, as I know her to be a most devoted parent, and the disease is an insidious one in the earlier stages.

(3) The freshness of the serum. This, of course, was beyond reproach. The makers, Messrs. Burroughs & Wellcome, sent Dr. O'Brien to represent them at the inquest. Dr. O'Brien has been in charge of their serum laboratory for five years and had never had a similar case reported. He stated, justly, that had there been anything wrong with the serum there would have been other complaints.

(4) The effects of the injection, ten years previously. Since the inquest I have learned that the mother's description was substantially correct. Dr. Waller, now retired, then attended the girl. He states that he gave 2000 units at the patient's home; that he was scarcely out of the street when he was sent for, though he did not receive the message till an hour later.

(5) The dose of antitoxin administered. This, my colleagues agreed, was a fair, average dose.

I have attended the girl and all the family for nearly five years. The father is fair, and suffers periodically from bronchitis. The mother is dark, slight, and active. She suffers from recurrent tonsillitis. The children, four girls, are all very fair, the one who died being the eldest. She was a typically catarrhal subject, suffering from both bronchial and nasal catarrh in bad weather. I attended her only a few weeks before her death for nasal catarrh. She never suffered from asthma, nor, to my knowledge, did any one of the family.

Anaphylaxis being so very rare a condition and the published reports themselves throwing so much doubt upon its existence, it is not surprising that those who might be regarded as experts are undecided in their opinions as to whether such a case as this is the result of the condition called anaphylaxis or diphtheritic toxæmia. Now the girl, when I saw her, was undoubtedly suffering from the effects of the diphtheria toxins, but there was no sign whatever of cardiac failure, nor had the walk from home, about five minutes, distressed her in the slightest. As she knew me very well, there was no fear of me nor was she frightened at the injection; she, indeed, bore it extremely well. I am driven, therefore, to the conclusion that her death was due to something else, and the signs manifested being those described as anaphylaxis, I conclude that her death was due to that condition. These signs are: (1) Sudden collapse immediately following injection; (2) marked cyanosis; (3) arrested respiration, with frothing at the mouth; (4) post-mortem signs of stasis and pulmonary congestion.

It has never been definitely stated how long the effects of the primary injection last in anaphylactic subjects; this case, if accepted as one of anaphylaxis, establishes the period as at least ten years.

It has always been emphasised that anaphylactic subjects are asthmatic; I can state positively that this girl never suffered from asthma nor did anyone of the family. She was, as I have already mentioned, catarrhal.

At present we are taught that in anaphylactic subjects a small "sensitising" dose of any serum should be given some time before the curative dose. Judging from the rapidity with which fatal effects manifest themselves, this dose should be infinitesimal to avoid a catastrophe.

A RETROSPECT OF OTOLOGY, 1917.

By Macleod Yearsley, F.R.C.S.,

Otologist to London County Council Deaf Schools; late Senior Surgeon to the Royal Ear Hospital, etc.

The literature relating to pædiatric otology has certainly suffered by the war; this year of 1917 has been a very lean year indeed. The difficulty is not so much to pick out the best of many papers, but to find any papers at all.

As one valuable paper in its relation to ear disease in children is especially to be noted "Some Hints on the Tonsil-Adenoid Operation based on an Experience of 5000 Cases," by Dan McKenzie ('Practitioner,' xcix, p. 109). No attempt will be made to summarise this very sensible and fearlessly outspoken paper, because it should be read *in extenso.*

An interesting paper by J. Dutton Wright ('Medical Record,' cvi, p. 241) appeared on "Auricular Education of Deaf Children," in which it was insisted that the cóoperation of physicians is needed in order that advantage may be taken of unrealised possibilities of educating slight powers of hearing remaining in the cases of many deaf children attending the special schools for the deaf. The reviewer can vouch for the truth of this statement and urges all whose practice lies largely among children to use their power in this matter. With the partially deaf (or "hard-of-hearing") child very few and very imperfectly-defined sounds reach them under the ordinary conditions of life—so few and so indistinct that they can attach no meaning to them. By the simple process of uttering these sounds at sufficiently short range and with sufficient loudness to reach them at the moment when one has awakened in their minds the ideas for which the sounds stand, their brains can be trained to comprehend language just as children with normal hearing gradually learn to comprehend it. The aid of the medical profession is much needed, both in detecting the existence of even very slight hearing-power in the little deaf children of from 4 to 10 years of age that they see and also in exerting their influence with parents and schools to secure the necessary auricular education for these deaf children. Often the mere planting of the idea of auricular education in the minds of the parents by doctors is enough to set its accomplishment in motion. But frequently more effort is needed. If all physicians, whether otologists or not, would lend a hand in disseminating this knowledge, many a deaf child would grow into a normal adult than could possibly have been the case if no access had been found to the brain through the ear.

'Child Study' (x, p. 88) contains an excellent paper by Irene R. Goldsack on "Development of the Language of Young Deaf Children." It is pointed out that deaf children vary as much in their degrees of intelligence as hearing children. The hearing child acquires speech as the natural result of life lived amongst speaking children. No attempt should be made to teach deaf children language, but they should be provided with countless opportunities and experiences whereby they can acquire the speech and language of common life in a natural way. They should be taught to articulate, which is the work of the trained speech teacher, but not until they have grasped the significance of speech, the use and value of speech-reading, and have shown a desire to speak. The definite development of articulate speech should be dissociated from the development of language. The child should be talked to from the earliest moment, to interest him and make it "worth his while" to take the trouble to watch for speech.

Macleod Yearsley ('Journ. of Laryngology,' xxxii, pp. 117 and 145) published a long paper on "The Causation and Prevention of Educational Deafness." It gives full details of his observations on the children educated in the London schools for the deaf during the last nine years, confirming and extending the previous observations of Dr. Kerr Love. It shows the need for the complete investigation of each case, and how in the greater number much might have been done by preventive methods in early life; when the child has reached the age of compulsory school attendance and his condition is ascertained, it is often too late to render much help, save of an educational character. With the development of infant clinics and consultation centres, and with the establishment of nursery schools, cases may be ascertained and treated at an earlier date. Half the cases of primary ear disease are associated with unhealthy conditions of the nose and throat, of the nature of chronic catarrh, the factors in the production of which are mainly faulty hygiene and air-borne infection. It cannot be too strongly realised that the beginnings of these diseases must be sought and treated in the pre-school age. The cure must be sought in better sanitation, and still more in the sanitary education of the people.

"Hearing Tests from a Practical Standpoint" is the title of a paper by G. L. Richards ('Boston Med. and Surg. Journ.,' clxxvii, p. 213), in which hearing tests are discussed in detail. The author considers that they take up too much time. He prefers in ordinary cases to determine the quantity and quality of the deafness present and the situation of such lesions as far as tests can enlighten him. He employs tuning-forks for bone conduction and Rinne's test, takes the high and low tone limits and the voice test. He points out the difficulties attendant upon the testing of children and admits that many of them cannot be tested with any accuracy until the third or fourth year in school.

An interesting "Case of Acute Mastoiditis with an Enormous Leucocyte Count—both Mastoids opened—Recovery" is recorded by G. F. Keiper in the 'Annals of Otology,' etc.,' xxvi, p. 548. The patient was a boy of 4 years old, who started with an attack of tonsillitis followed by purulent bilateral otitis media. Temperature 100·2° F., pulse 134. The unusual feature in the case was the enormous leucocyte count of over 60,000 white cells per cubic millimetre. In a four-year-old boy, with comparatively small mastoid antra, "it seems almost inconceivable, to say the least," remarks the author. But the repeated blood-counts, made the same day, left no doubt as to the correctness of the observation. The day after operation this leucocyte count showed a decided drop to 16,500 per cubic millimetre.

Bacon ('Med. Record,' xci, p. 1127) has published a valuable paper on the "Complications of Acute Middle-Ear Suppuration, and the Difficulties in making a Diagnosis in Certain Cases." In the continuation of high temperature after incision of the drumhead, a warning is given as to the possibility of pneumonia. He cites the interesting case of a girl, aged 7 months, in which pyelitis simulated sigmoid thrombosis. Erysipelas and sinus thrombosis are both liable to be mistaken one for another.

Royal Society of Medicine.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Friday, November the 22nd, 1917.

The President, Dr. H. Morley Fletcher, *in the Chair.*

Congenital Malformation of the Left Temporo-maxillary Joint and Both Hip-joints.—Mr. A. S. Blundell Bankart.—The patient, a girl, aged 5 years, first came under observation at the age of two years with ankylosis of the lower jaw, stated to have been present from birth. At operation the left condylar process was found to be fused with the base of the skull and with the zygoma. Both the condylar and the coronoid processes were removed.

The child was said to have had a slight limp since she began to walk. This attracted little attention at first, but on her re-admission to hospital in 1917 the limp was more noticeable. On the right side the great trochanter was high and prominent; movements of flexion and extension were free; abduction and internal rotation were much restricted. On the left side the hip appeared to be normal, but abduction was limited. There was no pain. The skiagram showed that the head of the right femur was absent; the neck was stunted and bent downwards and ended in a blunt point in the acetabulum. The head of the left femur and the upper part of the neck were very irregular, the head being flattened above. Both acetabula were large and irregular.

The appearances of the left hip were typical of the condition described by Calvé as *pseudo-coxalgie,* which was probably due, in the first place, to a congenital defect of chondrification. The right hip appeared to be in an advanced stage of the same condition, the femoral head having been completely absorbed.

Specimen of Sarcoma of the Right Kidney with Metastatic Deposits in the Skull.—Mr. A. S. Blundell Bankart.—A female child, aged 4 months, was admitted to hospital on September the 9th, 1917, with a soft swelling in the right orbit, which had been noticed for a fortnight. The child was fat and well nourished; the abdomen was rather large, but nothing abnormal was felt there. A few days after admission a soft swelling appeared over the right parietal bone and grew rapidly. There was no trouble with the bowels until October, when the child became constipated and vomited. The abdomen became very distended, it was resonant all over, and frequent enemata had to be given. Urine was passed normally. The child died on November the 5th. Necropsy: A sarcomatous growth was found in the right kidney. The abdominal lymphatic glands were large and infiltrated with growth. There was a large secondary growth involving the right parietal bone and the bones of the right orbit. The left kidney, the suprarenals, liver, spleen, lungs, and brain were all normal. Microscopical sections showed the growth to be a round-celled sarcoma.

Case for Diagnosis.—Dr. J. Porter Parkinson.—A boy, aged 11 years, had been well until a year ago, when he had epistaxis and headache almost daily and was said to have become yellow in colour. Three weeks ago a swelling was noticed in his neck. On admission he looked well-nourished but somewhat anæmic. On the right side of the neck, just above the clavicle, was a tense, elastic swelling resembling a mass of enlarged glands. There was very slight jaundice. The liver was somewhat enlarged, the left lobe apparently more than the right, and felt harder than normal. The spleen could be felt three fingers' breadths below the costal margin. The kidneys could not be felt, and the urine was normal except for a trace of bile pigment. No enlarged glands could be felt in the abdomen or elsewhere than in the neck. The heart, lungs, and other organs appeared normal. There was no evidence of congenital syphilis, and the Wassermann reaction was negative. The blood-count was practically normal, viz. red cells, 4,080,000; white cells, 7,800; hæmoglobin, 62 per cent.; colour-index, ·7 Differential count: Polymorphs, 65·9 per cent.; lymphocytes, 28 per cent.; eosinophils, 2·5 per cent. No variation in size or shape of red cells, no nucleated forms, no myelocytes The fragility of the red cells was normal. The temperature had generally varied between 97° and 100° F. daily, with occasional rises to 101° or 102° F., and had sometimes been nearly normal for a day or two. The glands in the neck became softer and fluctuating, and on October the 17th some pus was evacuated No tubercle bacilli were found nor organisms of any sort. During his stay in hospital the boy had seemed remarkably well, and had shown a slight increase in weight. There had been no epistaxis nor jaundice after the first few days. The urine was tested for urobilin, with a negative result. Two days previously a glandular abscess in the right groin was opened. The glandular affection appeared to be tuberculous, but that did not explain the symptoms nor the asymmetrical enlargement of the liver.

Friday, January the 25th, 1918.

The President, Dr. H. Morley Fletcher, *in the Chair.*

Vitiligo Patches with Central Pigmented Mole.—Dr. J. L. Bunce showed a girl, aged 12 years, whose hair of the scalp had been removed for ringworm six years previously. The hair grew again and was normally pigmented. One year ago she developed two well-marked patches of calvities, and the hair over the two areas was quite white. At the same time she began to show patches of vitiligo, and there were now thirty-five such patches, varying in size from a five-shilling piece to a sixpence, some quite irregular in outline, some more or less circular. In the centre of three of the patches was a raised, deeply pigmented lesion, apparently a mole. Two of these patches with a central mole were situated on the body, and one on the neck. Such abnormal condition of vitiligo was extraordinarily rare. It was difficult to assume any direct connection between the previous epilation by X rays and the subsequent calvities.

Primary Sarcoma of the Lung.—Dr. J. PORTER PARKINSON (*v.* p. 28).

Case of Osteomalacia and Infantilism with Horseshoe Kidney and Interstitial Nephritis. – Dr. H. C. CAMERON.—A girl, aged 15 years, was admitted to hospital for extreme deformity of the wrists and knees which had appeared about eighteen months before. For the last six months she had been unable to walk, complaining of pain in the legs. For some years she had not grown in height but had become fatter. She was dwarfed and infantile in appearance. Osteotomy was performed; two days later complete suppression of urine, with increasing drowsiness, was noted. Death followed on the fourth day after the operation. The urine was said to be free of albumin. Post mortem the bones were very slender and so softened that in places they could be cut readily with a penknife. The lower end of the radius was bent outwards, forming a complete right angle with the shaft. The neck of the femur showed an angle with the shaft of less than a right angle. Skiagrams showed great irregularity of the epiphyseal line with extensive uncalcified areas in the surrounding bone. The kidneys were represented by a single horseshoe structure situated low down over the third and fourth lumbar vertebræ; the capsule was thick and adherent, and there were numerous cysts. The microscopical changes were those of chronic interstitial nephritis. The left ventricle was striate and hypertrophied. There were atheromatous changes in the mitral valves. No abnormality was detected in the thyroid or other ductless glands.

Case of Osteomalacia and Infantilism with Renal Deficiency.—Dr. H. C. CAMERON.—A girl, aged 17 years, was admitted to hospital for deformities of the wrist, knees, and ankles. She was said not to have grown since the age of 9 years, when her legs and arms first began to bend and to be painful. Since April, 1917, she had been unable to walk at all. The radius and ulna were bent sharply outward at their lower ends. The condyles of the femur were displaced inwards and backwards, and the lower end of the tibia was acutely curved as in rickets. The intelligence and general health was good. The specific gravity of the urine was low—1005–1008; there was albumin but no casts. The daily amount passed averaged about 70 oz. The blood contained 2·07 gr. of urea per 1000 c.c., or about seven times the normal Ambard's constant 0·798, or about ten times the normal. Skiagrams showed similar changes to those in the previous cases. The Wassermann test was negative.

Dr. Cameron showed for comparison the bones of the upper and lower extremities from Mr. Davies Colley's case which was published in 'Trans. Path. Soc.,' xxx.

Case of Cretinism showing Delay of Epiphyseal Development.—Dr. H. C. Cameron showed a girl, aged 6½ years. Height, 3 ft. 4 in.; weight, 34 lb. The symptoms of cretinism were not marked, but the skin was dry and the eyelids a little puffy. The eyebrows were poorly developed. A skiagram of the wrist showed the epiphyses had reached the development of a normal child of less than 3 years. The os magnum and the unciform had begun to ossify, but the centre for the pyramidal, the proximal epiphysis of the first and the distal epiphyses of the other four metacarpal bones, all of which should have appeared by the third year, were absent.

The infantilism was thus much more marked in the epiphyses than in the general appearance of the child. Dr. Cameron had never found any condition which he thought was due to a subthyroid state without very marked delay in the development of the epiphyses.

Case of almost untreated Cretinism in a girl, aged 28 years.—Dr. H. C. Cameron.—The patient was 4 ft. high, and was said still to be growing. The epiphyses, however, appeared all to have united. She was said not to have grown at all till the age of 7 years, when for two years she was treated from time to time. During these two years her teeth were cut, and she became able to walk with difficulty. Since then she has had no treatment. She showed most of the features of cretinism. The skin was harsh and dry, and there was infiltration of the subcutaneous tissue, especially of the face and hands. Menstruation was said to be normal. She could speak a few words. She still played with dolls.

Case of Erythromelalgia.—Dr. H. C. Cameron.—The patient was a Jewish girl, aged 10 years, who last year suffered from a very extreme swelling of the hands and feet. This year her feet and right hand, though cold and cyanosed, had not shown her condition so markedly, but her left hand was very swollen and very painful. It got much worse in cold weather. After holding her hand up for some minutes the swelling completely subsided, and there remained only some stiffness and atrophy of muscles.

Congenital Obliteration of the Bile-ducts.—Dr. W. E. Carnegie Dickson.—The case was of interest owing to the rapidly fatal issue, supervening on the third day after birth, the jaundice itself appearing on the second day. The birth was normal and the child appeared healthy; but a rapidly increasing jaundice appeared on the second day, it became comatose with spasmodic breathing, and it died in just under three days from birth. At the autopsy complete obliteration of the cystic, common, and right and left hepatic ducts was found, with marked dilatation of the intra-hepatic bile-ducts and deep bile-staining and congestion of the liver. Except for the general jaundice, the only other point of interest was the extreme congestion and hæmorrhages in the suprarenals, especially the medulla. Microscopical examination of the liver did not show any of the biliary cirrhosis usually described in such cases, the bile-ducts showing marked dilatation and some surrounding "small-celled infiltration." The liver-cells showed marked cloudy swelling, and fatty degeneration, and, especially towards the periphery of the lobules, were packed with bile-pigment. There appeared to be no septic cause, and the case, on the whole, was suggestive of the non-development of the lumen of the extra-hepatic bile-ducts rather than to their obliteration by some inflammatory process such as a cholangitis.

SECTION OF DERMATOLOGY.

July the 19th, 1917.

Case of Multiple Morphoeo-sclerodermia.—Dr. GEORGE PERNET showed a girl, aged 11 years, in whom the changes in the skin had first been noticed six weeks ago. There were now over the lumbar region and scapula faintly violaceous areas, with here and there oval patches of slight ivory-white sclerosed glistening skin, bordered by pale lilac wings. The oval patches were inclined to be symmetrical about the back.

Case of Extensive Nævus of the Trunk and Extremities Involving the Palms and Soles.—Dr. GEORGE PERNET showed a boy, aged 6 years, in whom the condition of the skin had first been noticed by the mother a week or two after birth. The nævus occupied a corset area of the trunk and upper parts of the thighs and buttocks, the front of the knees, with a boot and glove-like distribution about the feet and hands. the soles and palms being involved. The skin in that area was dry and rough to the touch, with striations, giving a curious variegated appearance, especially in front.

The fronts of the knees showed a rough patch on each. The backs of the hands and dorsa of the feet were slightly affected, but the palms and soles were rather dirty-looking and rough as in revalosis. Running up about the tendo Achillis were somewhat rough and red narrow linear bands, like a mild degree of nævus linearis.

The nævus was of a mildly verrucose type. Quite recently faintly pink scaly patches had appeared about the right elbow and under the left clavicle.

On scratching up the scabs, bleeding points could be made out, indicating a mild degree of psoriasis, which some might consider seborrhœic, especially as the scalp was dry and scurfy.

The boy was in good health and well nourished. There were no signs of syphilis in either mother or child, and the Wassermann reaction in both was negative.

October the 18th, 1917.

Case of Sclerodactyly.—Dr. J. H. SEQUEIRA.—The patient was a girl, aged 12 years, in whom the condition had first been noticed three years previously on the hands when she was under treatment for ringworm of the scalp. The child showed a very marked degree of sclerodermia, beginning at the hands and feet, and the face had the characteristic "marble statue" appearance. Her history was unimportant, but the condition was supposed to have dated from a fright. She had had chickenpox, scarlet fever, and measles, but not rheumatic fever.

The Wassermann reaction was negative. The lymphocytes were 18·5 per cent., *i.e.* between twice and thrice the normal proportion. Thyroid and various other treatment had been given without marked improvement.

Case of Adenoma Sebaceum: Pringle Type.—Dr. E. H. GRAHAM LITTLE showed a typical case in a girl. It was of congenital origin and associated with fibroid tumours on the back of the trunk—a common association. Over the sacrum there was a patch about the size of the palm of the hand, covered with characteristic pale fibrous tumours. She also showed the mental backwardness characteristic of the disease. She was aged 14 years, and was in Standard IV. There was a history of fits, probably epileptic, between the ages of two and four. In a family of eight she was the only one who had such symptoms.

Case of Acne Scrofulosorum.—Dr. E. H. GRAHAM LITTLE.—The patient was an obviously tuberculous boy, aged 14 years, with an extensive eruption of acne scrofulosorum. The condition had an unusually long history, as it dated from the age of seven. A new eruption had occurred on the nose within the last two months. The question was whether that eruption was an extension of the tuberculide or whether it was a commencing acne vulgaris. Besides the skin condition, he had chronically swollen joints and enlarged glands in the neck. The face condition was the same as in the other parts. The present distribution was chiefly on the legs, thighs, hands, and forearms, where there was an extensive, closely aggregated eruption of typical follicular papules and pustules. The extremities were blue and cold, and the boy was ill-developed for his age. There was chronic alopecia as well of many years' duration.

November the 15th, 1917.

Bullous Urticaria in a Baby.—Dr. H. G. ADAMSON.—The baby, who was aged 17 months, had had very severe urticaria involving the whole body since the age of three months. It was not of the type of urticaria usually seen in children, viz. lichen urticaria, or, more rarely, urticaria pigmentosa. Dr. Adamson did not remember having seen this condition of generalised wheal formation in a baby before.

For more than a year there had been continuous eruptions of huge wheals over the chest and shoulders and head and neck especially, but also on other parts of the body and limbs. The wheals were accompanied by intense itching, so that when uncovered the baby tore at the skin with its finger-nails. During the last six months the wheals had been frequently the site of large clear bullæ, which came up in a few minutes, and afterwards dried up into a crust. There were at present many crusts on the scalp and some clear bullæ on the forehead and neck. The general health had remained good. It was thought that the condition might possibly be due to milk idiosyncrasy, and for six weeks the child was put on a diet without any milk, but with no other result than that it lost flesh. It was weaned at the age of eight months, and the change of diet made no difference. No drug treatment had been of any avail.

SECTION OF OTOLOGY.

November the 16th, 1917.

Boy, aged 11 years, with a Cystic Swelling Occluding the Right Cartilaginous Meatus (?) Dermoid Cyst.—Dr. H. J. BANKS DAVIS.—The swelling, which was on the anterior and lower meatal wall, was elastic, and a speculum could be passed beyond it, revealing some secretion from the cyst. The symptoms were deafness and tenderness when the swelling was pressed. The cyst at first sight looked like a polypus which had become epithelialised.

Foreign Body, a Green Pea, removed from Middle Ear by Post-aural Operation on a Boy, aged 10 years.—A fortnight previously an attempt had been made in the casualty department to remove a foreign body which the boy stated he had pushed into his ear, but nothing could be found. The boy was admitted to hospital, and a large pea with the husk complete was removed from the middle ear.

SECTION OF LARYNGOLOGY.

November the 2nd, 1917.

Fusiform Dilatation of the Œsophagus, coated with Oidium Albicans and apparently Idiopathic.—Sir StClair Thomson.—A girl, aged 15 years, was admitted to hospital with a suspicion of an œsophageal pouch. The symptoms had started one year previously with violents fits of coughing and regurgitation of food. She had no difficulty in swallowing and ate anything, but shortly after each meal food was regurgitated into her mouth. The condition varied; for fourteen days she might have little or no difficulty in retaining everything, and then for days she might be unable to get any food down, as regurgitation followed fast on any attempt to swallow. It was rare for food to be regurgitated which had been swallowed on the previous day. No blood. Discomfort referred to middle of sternum. No loss of weight or strength, and patient was particularly vigorous, well-grown, and intelligent. She had had every single tooth in her upper jaw removed, as it was thought her trouble was due to pyorrhœa.

Present condition.—On ordinary examination there was nothing to be detected.

Examination on the screen showed that a bismuth meal passed freely to the middle of the œsophagus, where it was held up for a short time.

Plate examination showed a definite obstruction at the cardiac end of the œsophagus, with considerable dilatation above the obstruction and some irregularity of the shadow about the middle of the œsophagus. Œsophagoscopy was particularly easy, and showed an evenly and widely dilated fusiform gullet, irregularly coated with extremely adherent plaques of dirty white material like curdled milk. On removal this material was found to consist of a mass of *oidium albicans* with other bacteria. No pus, blood, or fragment of growth. A series of lavages, including peroxide and eusol, were carried out in May and the patient was relieved. She had again come under treatment and remained much *in statu quo*.

Sir StClair Thomson proposed to dilate the cardiac and stimulate the constrictor peristaltic muscles.

Excision of the Retro-pharyngeal Gland from Recurring Retro-pharyngeal Abscess of Tubercular Origin.—Mr. Norman Patterson.—A boy, aged 7½ years, had a retro-pharyngeal abscess, evidently tubercular, opened through the right side of the neck in November, 1915. When seen on March the 8th, 1917, there was a large swelling, causing the right posterior pharyngeal wall to bulge forwards and extending past the middle line. A swelling was also present in the upper part of the right side of the neck. A long incision passing through the old scar was made behind the sterno-mastoid and the abscess evacuated. The dissection was then carried inwards behind the carotid sheath and pharynx, and the retro-pharyngeal gland, which was much enlarged, caseating in parts and in parts calcified, was removed. The abscess wall was curetted and the cavity packed with gauze. Healing took place slowly. In September, 1917, the patient developed an abscess in the left axilla and there was now an enlarged gland on the left side of the neck.

Lupoid Tuberculosis of the Pharynx, affecting the Soft Palate and Uvula in a Subject of Congenital Syphilis.—Dr. Irwin Moore.—The patient, a boy, aged 8 years, was first seen on January the 16th, 1917, when he was suffering from enlargement of the submental, posterior, cervical, and inguinal glands of eight months' duration. The submental glands, which were matted together, disappeared in six months under potassium iodide treatment. When he was first seen the uvula showed a semi-translucent swelling, extending over the greater part of the soft palate; it was solid, rigid, and leathery in consistence. This did not vary till two months later, when the infiltration gradually extended downwards along the posterior faucial pillars. The tonsils were not enlarged. They were enucleated, and sections were examined for tubercle bacilli with negative result, but typical giant-celled systems were present. Sections of the adenoid tissue removed from the nasopharynx on February the 14th showed giant-cells of full size, together with others isolated in fibrosing tissue containing only a few nuclei. A cervical and inguinal gland were removed. The cervical gland was found to contain one or more caseous foci, surrounded by fibroblastic tissue containing a few giant-cells typical of a tuberculous lesion. The inguinal gland showed areas of endothelial proliferation, but no giant-cells. There was no caseation. Inoculation of a guinea-pig was negative.

Examination of the larynx on March the 24th by Killian's suspension apparatus showed œdematous infiltration of the epiglottis and arytenoids, but no signs of ulceration. There was no difficulty in breathing. No history of tuberculosis and no pulmonary signs were present until March the 10th, when fine moist crepitations were heard over the whole of both lungs. A slight cough, night sweats, and slight rise of temperature were present. The child was losing flesh, though the appetite was good. Radioscopic examination at first showed no enlargement of hilar glands, no peribronchial striation, and no enlargement of the tracheo-bronchial glands, but radiograms taken on July the 16th, 1917, showed enlargement of hilar glands with associated peribronchitis tuberculosa simplex. A definite tuberculin reaction was obtained on June the 26th after diagnostic injection of 0·001 c.c. O.T., and a few days later the soft palate looked pinker and more normal. On palpation, marked softening of the infiltrated palate was felt, probably the result of the tuberculin reaction. Blood examination showed a mild anæmia of secondary type with leucocytosis. Leukæmia could be excluded. Two independent authorities found a strongly positive Wassermann reaction, and the parents admitted infection with and treatment for syphilis. The patient himself had had no treatment for syphilis.

Congenital Deformity showing a Nose with Four Nostrils.—Sir StClair Thomson.—The patient was a female infant aged 4 weeks. The extremity of the nose showed three good-sized vestibules with two columellæ, and on closer inspection a smaller fourth orifice was visible. Examination with a probe showed that the most external orifice on each side was the true air-passage, the two supplementary orifices being internal.

These latter orifices were blind *cul-de-sacs*, the smaller one being only about ¼ in. long, and the larger one about ½ in. There was a deviation of the end of the septum to the right, which was of interest in view of the general agreement that nearly all deviations were acquired, and that most of them were traumatic.

Abstracts from Current Literature.

Diseases of the New-born.

Some reflexes in the fœtus (*'Arch. Brasil. de Med.,'* 1917, VII, *p.* 325). —**I. Malaguerta** refers to Krabbe's paper (*v.* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1913, X, *p.* 225), and records the following observations of his own on a five months' male fœtus which died half an hour after birth: (1) Contrary to what occurred in Krabbe's case, the fœtus showed a slight Babinski's sign. (2) The abdominal reflexes were present, as in Krabbe's case, and were more marked on the right side. (3) The knee-jerk, which was only investigated on the left side, was not present just as in Krabbe's case. The fœtus also presented the reflex of defence and spinal automatism.
J. D. ROLLESTON.

The chlorine content of the blood in new-born infants (*'La Pediatria,'* 1917, XXV, p. 641).—**S. Cannata** draws attention to the lack of observations on this subject, although much has been done in the study of chlorine metabolism in normal and pathological conditions. Such researches might give interesting results in morbid states associated with the presence of œdema and in other dyscrasiæ. Rogée and Fritsch's method of estimation was followed, giving the chlorine per 1 c.c. of blood. Out of twelve infants from 1 to 5 days' old, Cannata found that during the first twenty-four hours of life the chlorine varied from 0·392 to 0·434 grm. per cent.; from the first to the fifth day between 0·392 and 0·400 per cent.—average 0·420 per cent.
VINCENT DICKINSON.

A child weighing 25 lb. at birth (*'Journ. Amer. Med. Assoc.,'* 1916, LXVII, *p.* 950).—**D. P. Belcher** records the birth of a female child which weighed 25 lb. The mother was a multipara, aged 35 years; height, 5 ft. 7 in.; weight, 15 st. 10 lb.; circumference at hips, 50 in. Considerable difficulty was experienced in delivering the shoulders, which measured 12 in. across. The child was 28 in. in length and perfectly formed, but was born dead. Only a slight laceration of the perinæum occurred.
T. R. WHIPHAM.

Congenital skin defects (*'Amer. Journ. Dis. Child.,'* 1917, XIV, *p.* 113). —**I. A. Abt.**—Most of the recorded cases deal with skin defects of the scalp, which vary in size from a pin-point to a small coin. They are usually circular in shape, sometimes oval or irregular, and generally have clean-cut edges. The areas may be generalised as in Emanuel's case (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1906, III, *p.* 64). The defects are usually visible at birth, and undoubtedly originate *in utero*. They present ulcerated areas which affect both layers of the skin. The subcutaneous tissues are not involved. Unless the defect is extensive there is no reason why the malformation should be incompatible with the life and general health of the infant. The majority of lesions tend to cicatrise in a short time. Abt records a personal case where the infant presented a defective skin area over each knee. Within five or six weeks the denuded red areas were replaced by slimy white patches. The healing process was complete, and the baby appeared normal in every respect. J. D. Rolleston.

Periumbilical cutaneous agenesis; appendicectomy twelve hours after birth; recovery (*'Arch. de Méd. des Enf.,'* 1917, xx, *p.* 393).—**M. Vargas.**—The umbilical and periumbilical region instead of being covered by normal skin presented a covering of whitish substance of gelatinous appearance identical with that forming the umbilical cord, which was attached to its lower end. During the operation for the repair of the defect the intestine became herniated and the appendix was removed. Complete recovery took place. Vargas has seen four other cases of congenital defect of the skin. In the first the skin stopped at the posterior axillary line, and all the anterior part was formed by a gelatinous membrane which broke at birth exposing the liver, stomach, and intestines. Operation was refused and death occurred in forty-eight hours. In the second case a white membrane formed the centre of the abdominal wall. Death from broncho-pneumonia occurred six days after operation. In the third case the infant, who lived only fifteen hours, presented a hernia, containing the liver and intestines, extending from the xiphoid cartilage to 5 cm. above the symphysis. The fourth case, which died a few hours after birth, presented a zone of aplasia of the abdominal wall. J. D. Rolleston.

Multiple congenital malformations in a still-born fœtus (*'Riv. di Clin. Pediat.,'* 1916, xiv, *p.* 419).—**G. Funaioli** describes a case in a twin, the other being complete and well formed and living for nine days, but small, weighing only 1994 kgrm., in comparison with the 2816 kgrm. of the case in point. The fœtus consisted of a body with an upper extremity shaped like a sugar-loaf, flattened from before backwards, and covered with a slight lanugo limited to the right side. On the anterior aspect, but a little towards the left side, there was an irregular, triangular fold, having a valvular aperture at its base into which a probe passed 5 cm. At the sides of this fold, but irregularly placed, there were four superficial cutaneous folds, the whole resembling a wolf's snout. There was no trace either of nose or eyes. This upper extremity was continuous below with the rest of the body, the abdomen being indicated by the umbilical cord. There were no rudiments of upper limbs or mammæ. The lower half of the body was normal as regards the nates, external genitals of female type, thighs, and legs. The right foot was reduced to a simple excrescence the size of a pea, while the extremity of the left leg ended in a rounded appendix, flexed on the posterior aspect of the leg. The birth was normal and at term; both parents were healthy and robust. Autopsy showed no trace of division between the thoracic and abdominal cavities. The heart was the size of a pea. The skull was reduced to a mere bony cavity, while small, reddish, formless masses occupied the position of the abdominal organs.

Vincent Dickinson.

Congenital obliteration of the bile-ducts (*'Amer. Journ. Dis. Child.,'* 1916, xi, *p.* 405).—**J. B. Holmes** states that this is not an extremely rare condition. Over 100 cases have been reported, to which he adds a personal case. Accumulating evidence tends to show that the condition is usually a developmental anomaly and not the result primarily of inflammatory processes. In at least 16 per cent. of all reported cases the anatomical relations were such that operative relief was theoretically possible. Holmes recommends that as soon as the diagnosis is established an artificial passage for the bile to the duodenum should be made in suitable cases. When this cannot be done at the time of the operation, an external outlet for the bile should be provided and a repair operation attempted later. Meanwhile the child's nutrition should be maintained by administration, if necessary, of bile or bile salts. J. D. ROLLESTON.

Congenital occlusion of the bile ducts (*'Amer. Journ. Obst.,'* 1916, LXXIV, *p.* 521).—**J. Foote** and **R. Hamilton** report a case in which the jaundice began after maternal nursing was started on the fourth day. After the first week the stools became white and remained so. Death took place at the age of 6 months. Necropsy: Liver dark green with granular surface. Gall-bladder walls very much thickened. Cystic duct dilated from about 1 cm., then becoming cord-like. Common bile duct replaced by connective tissue. Hepatic duct absent. Microscopically the liver showed biliary cirrhosis. The pancreas was normal. The writers think the condition is more common than is supposed, as the increases in the number of cases is greatest when routine autopsies are done. They recommend the use of the urobilinogen test and the Hess duodenal catheter as aids in the diagnosis. They regard the condition as purely developmental and not inflammatory. J. D. ROLLESTON.

Familial icterus of new-born infants (*'Amer. Journ. Dis. Child.,'* 1917, XIII, *p.* 231).—**I. A. Abt.**—This condition was first described by Pfannenstiel in 1908. The cause is unknown. It is not present at birth, but appears during the first days of life. The disease may occur in successive pregnancies. It begins usually on the first or second day of life and rapidly increases in severity. The stools are catarrhal and frequent and the urine contains bile pigment. The patient may show meningeal irritation with characteristic crying and whining. At the onset there may be hyperæmia of the skin. If the disease continues hæmorrhages from the various mucous surfaces and into the skin as well as from the umbilicus occur. Death follows soon after from collapse. Atonic convulsions, especially of the upper extremities, as well as opisthotonos are frequent. The familial form is not frequent, for the disease has nothing to do with chronic family jaundice, which may be present at birth and may persist throughout life, and is constantly accompanied by enlargement of the spleen. It must also be distinguished from congenital obliteration of the bile-duct, which is characterised by intense obstructive jaundice. Necropsies have shown a peculiar icteric discoloration of the larger nuclei in the basilar portion of the brain and a yellowish discoloration of the nuclei in the medulla. This has been described as nuclear icterus (kerniktertus). Abt records personal cases occurring in two families. In the first family of five children three died, the third and fourth on the third and the fifth on the fourth day. In the second family of six children the fourth and fifth both died on the third day. The sixth child developed progressive jaundice and enlargement of the liver on the second day but recovered. J. D. ROLLESTON.

Hæmatemesis and melæna neonatorum (*'Dublin Journ. Med. Sci.,'* 1917, II, *p.* 55).—**B. Solomons,** at the Royal Academy of Medicine in Ireland, Section of Obstetrics, read notes on a case of the above. The bleeding started on the day after the delivery, which was uneventful, and large amounts of red blood were passed by mouth and rectum. The following points of interest were noted: (1) That the child was a female—the condition being supposedly more common in males. (2) The fact that ice-cold water, which is recommended in these cases, causes great pain; while, when the chill is removed, hæmorrhage does not recommence and there is no more pain. (3) That starvation can be sustained for so many days (six in this case). (4) That the cure in this case was effected by good nursing, warmth, quiet, water, a mixture of adrenalin chloride and calcium lactate, and the injection of horse-serum; that the baby became worse when the serum was temporarily stopped, and improved when administered again; that large doses of serum give better results than small, and that, when given hypodermically or by the mouth, the result seems to be the same; that, while no anaphylaxis was noticeable in this case, the physician should always be ready for this phenomenon, for which the best treatment is pituitary extract in small doses. (5) That it was possible that the ulceration in the gastro-intestinal tract was caused by some toxin carried from the mother to the child while still *in utero*. J. ALLAN.

Hæmatoma of the umbilical cord at childbirth, with severe hæmorrhage following double ligature of the cord (*'Practitioner,'* 1917, XCVIII, *p.* 389).—**P. R. Cooper,** in order to stop the hæmorrhage after a double ligature had failed, passed a ligature in the form of a triangle round the navel subcutaneously and tied the end of the ligature at the right-hand corner of the triangle to the other end at the apex. The hæmorrhage then ceased. F. R. B. ATKINSON.

The importance of an eye-ground examination in infants after difficult delivery with or without the aid of instruments (*'Amer. Journ. Obst.,'* 1917, LXXVI, *p.* 904).—**J. A. Kearney** states that one of the earliest signs of the existence of increased intracranial tension is determined by a direct-method ophthalmoscopic examination of the fundus. With an ordinary amount of intracranial hæmorrhage, a mild, œdematous blurring of the upper and lower margins of the disc and the nasal half of the disc and its margins may be seen in the first few days after birth, and, later, an œdematous blurring of the entire surface of the nerve head and all its margins, especially on the nasal half of the disc. When massive intracranial hæmorrhage occurs, gross œdematous changes may be seen quite early. If, at the same time, there is an increase in the cerebro-spinal tension on lumbar puncture, a simple decompression operation would be indicated. All suspected infants as soon as possible after birth should have an ophthalmoscopic examination and a lumbar puncture made; 1387 patients with spastic paralysis, with or without mental impairment, whose ages ranged from 1 day to 20 years, had their fundi examined, and of these 287 showed distinct œdematous changes or œdema in the regressive stage, and were operated on, with a mortality of 29 or about 10 per cent. Only 39 of those operated on were not first children; only 11 were not full-term babies; only 27 were not born with difficulty; only 61 did not have convulsive twitchings after birth, and in only 38 was the spasticity noticed before the eighth month after birth. J. D. ROLLESTON.

Serum treatment of hæmorrhage of the newly-born (*'Med. Journ. Austral.,'* 1916, II, *p.* 273).—**E. Ludowici.**—Within forty-eight hours of the birth of an apparently normal infant the caput began to enlarge and a large tumour formed. Blood oozed from the umbilicus and mucosæ of the nose, mouth, and anus. Subcutaneous hæmorrhages also appeared. On the third day 10 c.c. of the mother's blood was removed and allowed to clot. The serum was then injected into the subcutaneous tissues of the infant's abdomen. A few hours later the child began to revive, and the hæmorrhages ceased. A second injection was given next day, and the child made a perfect recovery. J. D. Rolleston.

The treatment of gastro-intestinal hæmorrhages in the new-born (*'Thèses de Paris,'* 1916–17, No. 11).—**L. Triollet.**—The thesis contains the histories of ten cases illustrating the method adopted at the Clinique Tarnier in Paris. The principles of this treatment are as follows: (1) Complete abstinence from food for two or, if necessary, three days. (2) Subcutaneous injection in the subscapular region of perfectly sterile gelatinised serum; for an infant of average weight the doses should be 20 c.c. daily while the hæmorrhage lasts. (3) Injection of 1 grm. of calcium chloride in the form of a 1 in 100 solution given in teaspoonfuls every two hours. (4) Keeping the child warm by hot bottles and a constant temperature in the room (64·4° F.) If no result is obtained from this treatment in the course of forty-eight hours, the child should be given specific treatment even if it appears free from syphilis. The specific treatment usually adopted at the Clinique Tarnier is mercurial inunction.

J. D. Rolleston.

Hæmorrhagic disease in the new-born treated by direct transfusion (*'Arch. of Ped.,'* 1917, xxxiv, *p.* 771).—**J. H. M. Knox.**—On the third day of life an infant vomited much bloody fluid and passed several tarry stools: 50 c.c. of mother's blood was received into 60 c.c. of sodium citrate solution; 15 c.c. of this was introduced into the longitudinal sinus and the rest in small quantities intramuscularly into the buttocks. Complete recovery took place. J. D. Rolleston.

Whooping-cough in the infant and new-born (*'Le Nourrisson,'* 1917, v, *p.* 344).—**G. Railliet** records a family epidemic. The son, aged 3½ years, fell ill with whooping-cough on December 5 and died on the 14th. The daughter, aged 20 months, also contracted the disease on December 5 and died on the 23rd. On the 14th the mother, who was eight and a half months pregnant, gave birth to a female infant, and a few days later had a typical attack of whooping-cough, although she stated that she had previously had an attack in childhood. She suckled the infant, who began to cough in her turn, and on the 20th showed disseminated bronchitis. Paroxysms soon developed, which, though incomplete, were undoubtedly of the nature of pertussis, consisting of almost silent subintrant expiratory movements, then a respiratory pause with jerking of the trunk and head, cyanosis, opening of the mouth and grimaces. In the interval between the attacks there was a bronchitic cough. The infant died on December 28, when it was just a fortnight old (*cf.* British Journal of Children's Diseases, x, *p.* 534). J. D. Rolleston.

The pneumococcus found in a case of still-birth (*'Journ. Amer. Med. Assoc.,'* 1917, lxviii, *p.* 843).—**E. L. Cornell** reports the case of an apparently normal child who died at birth before artificial delivery could be accomplished. At the autopsy nothing was found except that all the serous cavities contained an excess of fluid. The pericardial effusion yielded a pneumococcus and a Gram-positive bacillus, and the pleural a pneumococcus and a staphylococcus. The Wassermann reaction was negative in both the baby and the mother, but cultures from the tonsils and vaginal discharge of the latter showed the pneumococcus and staphylococcus in each. The woman had previously had a still-birth at full term, and it was stated that that child had a nasal discharge. T. R. Whipham.

On a small epidemic of pneumococcal infection in the new-born (*'Arch. de Méd. des Enf.,'* 1917, xx, *p.* 88).—**Mlle. Condat** records three cases which occurred in the maternity ward of a hospital. The pneumococcus was found in the blood in all the cases. In two there was a meningeal localisation, and in one broncho-pneumonia. The duration of the disease in the three cases was six days, four days, and barely twenty-four hours respectively. The cause of the epidemic was obscure, as the mothers were healthy and the labour normal. J. D. Rolleston.

Meningococcus meningitis in the new-born (*'Arch. of Ped.,'* 1917, xxx, *p.* 824).—**D. J. Milton Miller** reports a case in an infant aged 2 weeks. The following features were of interest: (1) The onset with conjunctivitis mistakenly regarded as gonorrhœal. (2) A bullous eruption on the abdomen and thighs in the second week of the disease. (3) The prolonged latent period before signs of meningitis were apparent (fourth week). (4) The character of the spinal fluid (xanthochromia and massive coagulation). (5) The large number of punctures of the fontanelle with no apparent ill-effects beyond vomiting. (6) The sclerema condition of the skin persisting throughout the attack. (7) The apparent improvement in the clinical symptoms and cerebro-spinal fluid after the tenth injection with subsequent return of acute symptoms and death. J. D. Rolleston.

Acute meningitis in the new-born (*'Arch. de Méd. des Enf.,'* 1917, xx, *p.* 404).—**Mlle. Condat** refers to Herrman's paper (*vide* British Journal of Children's Diseases, 1916, xiii, *p.* 307), and records three personal cases, one of which was of streptococcal and the rest of pneumococcal origin. Acute meningitis is not very rare in the new-born, but is apt to be overlooked. The signs are often slight or absent, and are masked by those of the general infection. Fever may be the first manifestation, but in Herrman's case the temperature was subnormal. Digestive disorders may be observed, such as vomiting, constipation, and diarrhœa. Prominence of the fontanelle and cervical opisthotonos are valuable symptoms. Rigidity and convulsions complete the clinical picture and necessitate lumbar puncture.

J. D. Rolleston.

Maternity and child welfare schemes: responsibility of local authorities under the Notification of Births (Extension) Act, 1915 (*'Glasg. Med. Journ.,'* 1917, i, *p.* 321).—**A. K. Chalmers** divides the work into three periods—ante-natal, middle and post-natal, and gives an account of what is being done in Glasgow. The three elements of the ante-natal scheme would be (*a*) weekly clinics in several areas; (*b*) home visitation for those unable to attend; and (*c*) beds to be made available to both groups where necessary. The provision by the municipality of beds for this purpose may be assumed not to require consideration until it has been ascertained to what extent, if at all, the beds in voluntary hospitals fall short of the need. Associated with these, in time, one would hope to see a rescue home established for the mothers of illegitimate children. Between the ante-natal and post-natal period there lies the period of confinement, which is, at the moment, probably sufficiently provided for by existing accommodation in the Maternity Hospital, but in any case can only properly be considered when the Midwives Act has come into operation and more is known of the 400 or more midwives at present in practice. With regard to the post-natal period, here again the work can be grouped in sections—clinics for nursing mothers and children, beds for both, and a system of home visitation when ill-health prevents the mother's attendance at a dispensary. One here again looks to the possibility of the Maternity Hospital, Sick Children's Hospital, and Cottage Nurses' Home, Govan, forming units in a system of clinics, the others being developed alongside our existing consultations. In all cases, however, it is desirable that beds should be provided which would admit two groups of patients—(*a*) nurslings with their mothers, and (*b*) infants who are artificially fed, and might be separated from their mothers. As a considerable number of both groups might have suitable home accommodation, the system of visitation already indicated for the ante-natal period might be organised for infants during the post-natal period, until the children were past the period of nursing. After this they will come under the machinery which will require to be devised for the ages 1–5, in connection with which it may be hoped that the existing Day Nurseries and the Fresh-Air Fortnight Association will become centres in a more fully developed scheme. Tabulations representing the work for the reduction of infantile mortality now being carried out by the Corporation of Glasgow, and the proposed extensions under the recent Act are appended. J. ALLAN.

On eugenics limited to the care of pregnant woman, advocating expectant mother hospitals and special dispensaries ('*Dub. Journ. Med. Sci.*,' 1917, II, *p.* 352).—**A. Smith** said pregnant women were divided into two classes: (1) Expectant mothers living in healthy surroundings getting sufficient food; (2) expectant mothers living in unhealthy surroundings getting insufficient food. The first class he dealt with generally. The second class requires ample food and rest as the first step in the direction of successful treatment of the unborn infant must be the successful treatment of the pregnant mother. The problem might be solved by means of expectant mother hospitals and special dispensaries, which should be endowed by the State. It is just as essential to nourish the infant through the mother as it is to feed the baby after birth. J. ALLAN.

Diseases of Respiratory System.

A study of the topography of the pulmonary fissures and lobes in infants with special reference to thoracentesis ('*Amer. Journ. Dis. Child.*,' 1916, XIII, *p.* 579).—**J. C. Gittings, G. Fetterolf,** and **A. G. Mitchell.**—The observations were based on dissections of formaldehyde-hardened bodies of fourteen infants aged from 6 weeks to 15 months. The conclusions were as follows: (1) The fissures of the lung in infancy show practically the same relation to the bony framework of the chest as in adults. (2) The origin, course, and termination of the fissures vary greatly in different individuals. (3) The variations do not apparently depend on any of the anatomical characteristics of the chest. (4) The lower level of the lungs in infants and probably in young children does not extend quite so low as in adults. (5) For this reason and owing to the anatomical characteristics of the bases of the pleural cavities in early life, great care should be taken to avoid damage to the diaphragm in performing thoracentesis.

(6) The sixth interspace in the mid-thoracic line and the seventh, and possibly the eighth interspace, in the line of the angle of the scapula (at rest) represents the lowest limits of absolute safety for thoracentesis in early life. J. D. Rolleston.

Clinical notes on the radiography of the thorax in children (*'Edin Med Journ.,'* 1916, I, *p.* 355).—**J. S. Fowler** deals with radiography of the thorax in pericardial effusions in children. Notes on the following four cases are given: Case 1.—Male. Congenital (?) murmur detected at 2 $\frac{9}{2}$ years; acute pericarditis with large effusion at 4 years; radiograph positive; very little constitutional or circulatory disturbance; rapid recovery; disappearance of bruit. Case 2.—Male, aged $1\frac{8}{12}$ years; left-sided pneumonia; small localised right empyema cured by aspiration; signs of pericarditis confirmed by radiograph; pericardium drained; great improvement; subsequent development of empyema on left side; drainage; death three weeks later. Case 3.—Male, aged 4 years; pneumonia; serous pleurisy, going on to empyema; operation with good result *quâ* empyema; lung expanded and discharge almost ceased; but general condition and state of pulse suggested involvement of pericardium; radiograph negative; post-mortem a week later showed pericarditis. Case 4.—Female, aged $6\frac{4}{12}$ years; acute pneumonia; radiograph negative on eighth day, though physical signs well marked; crisis on tenth day. The author points out that it is not suggested that in acute pneumonia opacity is usually absent; in many cases a well-marked shadow is formed. But the two cases illustrate the fact that with well-marked signs of pneumonia the lung may remain transparent to the X rays, whereas it is probable that pleural exudates, even if clinical evidence shows that they are small (*cf.* British Journal of Children's Diseases, 1916, xiii, *p.* 220) always give a definite shadow. Several excellent photographs are included. J. Allan.

Congenital absence of lung (*'Amer. Journn. Med. Sci.,'* 1917, cliv, *p* 33).—**A. G. Ellis.**—This is a rare condition, only eighteen cases having been recorded, to which Ellis adds the following: A boy, aged 8 years, was admitted to hospital with acute rheumatism, endocarditis, and pericarditis. There was marked dulness in the back over the left lung and no back sounds audible at the base. Above the root of the lung there was tubular breathing. The right lung was normal except for exaggerated breath-sounds. The autopsy showed absence of the left lung, the right lung extending well beyond the left costo-chondral line. The upper lobe was approximately twice the usual size. A projection to the left from the upper extremity formed a second apex. At the lower margin of the upper lobe was a projecting tongue forming a rudimentary lobe. Of the 19 cases of absence of the lung, 13 were of the left, 6 of the right. Interference with the blood-supply in early embryonic life is supposed to be the cause in all cases. The condition has not yet been diagnosed during life and found on autopsy. The duration of life is usually short, but the condition is not incompatible with adult life. J. D. Rolleston

D'Espine's sign in childhood (*'Amer. Journ. Dis. Child.,'* 1916, xi, *p.* 276).—**J. L. Morse** examined 666 children, aged from 1 to 12 years, in his private practice, and found this sign present in only 40 cases, or 6 per cent., thus showing that is is uncommon in the wealthy and well-to-do classes. It was very seldom found before 5 years, was commonest between

8 and 9 years, and its frequency diminished thereafter. In 18, or nearly 50 per cent., the enlargement was probably not tuberculous. In 9 it probably was tuberculous, and in 13 there were no data pointing one way or another. D'Espine was, therefore, wrong in his calculation that the sign was always a manifestation of tuberculosis of the bronchial glands. The sign simply means that there is some tissue between the trachea and bronchi and the vertebral column, which transmits the bronchial sound unchanged, whereas normally it is altered in its transmission (*cf.* British Journal of Children's Diseases, 1916, xiii, *p.* 216). J. D. Rolleston.

Asthma in children: its relation to anaphylaxis (*'Boston Med. and Surg. Journ.,'* 1916, clxxv, *p.* 191) —**F. B. Talbot** concludes that a definite ætiological connection may be established between most cases of asthma and some foreign protein by the skin test. If an individual is sensitive to one protein, he is also apt to be sensitive to other proteins. The large number of cases with family histories of asthma or food idiosyncrasies makes it seem probable that there is a hereditary predisposition to sensitisation. Information given by the skin test is of inestimable value in outlining the treatment of the case, and with the use of this information, marked improvement or cure often follows. Further study will undoubtedly add to our knowledge of asthma and its allied diseases, and will still further modify our conception of the processes involved. Macleod Yearsley.

Two cases of primary tumour of the anterior mediastinum (*'Riv. di Clin. Pediat.,'* 1917, xv, *p.* 113).—**G. Guidi** reports two cases aged 7 and 5 years. At first a diagnosis was not possible, but subsequently percussion of the anterior region of the thorax disclosed the presence of a mass occupying the highest part of the anterior mediastinum. At this point the diagnosis seemed to lie between enlarged glands and tubercular adenopathy —there being some pleuritic effusion in both the cases. The discovery of a dull zone in the right paravertebral area and a positive reaction to tuberculin in the second case favoured this view. But the progressive and rapid increase in size of the mass, beyond that usually observed in tubercular adenopathy, its limitation to the anterior mediastinum, the result of radioscopy, marked enlargement of the glands in the neck and axilla, and finally, with the course of the disease, prominence of the sternum and anterior part of the thorax excluded any other hypothesis than that of a primary neoplasm. In both cases autopsy showed that the tumours developed in the anterior part of the mediastinum in a rounded form flattened from front to back. They were not continuous with the posterior mediastinum, and caused no evident lesions in the bronchi, trachea, or large vessels. They had invaded, however, and covered a large portion of the pericardium with extension in the first case to the left pleura and tendency to diffusion in the intercostal muscles. In the second case, there were small nodules on the anterior part of the right pleura. The mass was, in the first child, uniform, pale in colour, and soft; in the other, irregularly lobulated, resistant, elastic, and ivory-yellow in colour, disseminated here and there with small dry friable nodules. In both cases the size of the growth was about 10 by 12 cm. Histologically, the tumours were sarcomata, or more precisely, lympho-sarcomata, with a reticular supporting tissue, scanty in the first case and abundant in the second, with metastases to the pleura, intercostal muscles, left cervical and axillary glands, mesenteric glands, pancreas, and kidneys in the first case; with invasion of the pericardium and metastases to the pleura, peribronchial, periaortic, and retroperitoneal glands, kidneys, and liver in the second case. As to the orgin of the tumours: In the first case, the soft consistence, homogeneous aspect, and its extension immediately under the sternum suggested its origin from the thymus, and this was confirmed by discovery of remains of thymus tissue with characteristic Hassall's corpuscles. In the second case, the site of the tumour outside the thymic region, its hard consistency, lobular surface, tendency to invade the posterior mediastinum, and the absence of residual thymic tissue pointed to an origin from some gland in the anterior mediastinum. Vincent Dickinson.

[illegible] n ic empyema (*'Amer. Journ. Dis. Child.,'* 1916, XI, *p.* 33). —**L. Gerdine** reviews the literature and relates six personal cases in children, aged from 6 months to 4 years, in whom fluid was obtained by puncture just before the crisis. The six cases occurred among fifteen cases of pneumonia or broncho-pneumonia in children. Five of the six fluids were opaque and yielded a large clot. Cultures of the fluid were sterile. In all five cases the fluid was absorbed spontaneously, as was shown by later punctures and skiagrams. The clinical course of the disease was more noticeably affected by the presence of new fluids. In the six cases about 5 c.c. was removed by puncture on the second day of disease, containing cocci in diplo and double-chain form. The group of pneumococci to which the organism belonged was not determined. The pleural cavity was drained, but death occurred in a few days. No necropsy.

J. D. Rolleston.

Two cases of interlobar empyema cured by simple puncture (*'Arch. de Méd. des Enf.,'* 1916, XIX, *p.* 317).—**E. Gorter.**—Case 1: A female infant, aged 15 months, developed interlobar empyema following broncho-pneumonia due to measles. Pus containing pneumococci was obtained on aspiration, and within a week the child had almost recovered. When seen three months later she was quite well. Case 2: A child, aged 5 months, in the course of whooping cough developed broncho-pneumonia, which lasted a fortnight. A month later a right empyema developed 80 c.c. of pus containing staphylococci was evacuated, and three weeks later 10 c.c. of pus still containing staphylococci. After the second puncture the temperature fell and recovery took place. J. D. Rolleston.

Types of pneumococcus found in the pneumonias of infants and young children (*'Amer. Journ. Dis. Child.,'* 1916, XII, *p.* 254).— **M. Wollstein** and **A. W. Benson**, on a series of fifty cases of pneumonia in young children on examination of the sputum, found the Type 4 pneumococcus comparatively frequent (60 per cent.) with a high mortality (40 per cent). Pneumococci of Types 1 and 2 were present in a higher percentage of lobar pneumonias than of broncho-pneumonias; the mortality Type 1 cases was 83 per cent., and of Type 2 cases 33 per cent. These figures are much higher than in lobar pneumonia cases in adults (*cf.* British Journal of Children's Diseases, 1915, XII, *p.* 80).

J. D. Rolleston.

Acute lobar pneumonia of the right apex of meningeal form in a child of 18 months (*' Le Nourrisson,'* 1916, IV, *p.* 295).—**M. Lavergne.**— A hitherto healthy child was suddenly seized with high fever followed by convulsions. On admission to hospital two days later it presented marked nuchal rigidity, Kernig's sign, and slight hyperæsthesia. Lumbar puncture gave issue to a clear fluid under hypertension, showing lymphocytosis but no micro-organisms. The following day signs of lobar pneumonia of the right apex were discovered. The temperature became normal on the seventh day, and recovery was uneventful. J. D. Rolleston.

Migratory pneumonia in children ('*Arch. Españ. de Ped.*,' 1917, I, *p.* 80).—**A. R. Lozano.**—Migratory pneumonia is that form of pneumonia in which the process is at first localised to one lobe of the lung and then extends until the whole lung is invaded. Among 65 cases of pneumonia in children of all ages, Lozano met with 7 such cases, none of whose ages were above 3 years or below 1 year. The disease is caused by the pneumococcus and possesses the general characters of the ordinary lobar form, although its duration is always longer. The total course of the disease in Lozano's cases ranged from nine to seventeen days. It is not at present known if the condition is due to a greater virulence of the pneumococcus or diminished resistance of the subject, or to some unknown cause. Apart from meningeal reactions which should not be regarded as complications, Lozano had a case of pneumococcal angina which preceded the pneumonia, an amicrobic, parapneumonic pleurisy, and another case of pleurisy at the end of the pneumonia—both of which disappeared without operation—and a case of double otitis. Although the complications were thus more frequent than in ordinary pneumonia, the prognosis could not be regarded as grave as all the seven cases recovered. J. D Rolleston.

A case of pneumonia of unusually short duration ('*Amer. Journ. Dis. Child.*,' 1917, xiv, *p.* 296).—**H. B. Conrad.**—A boy, aged 3 years, has suddenly taken ill with headache, vomiting, high fever, and rapid respiration at 6 a.m. At 10 a.m. the temperature was 103·6° F., pulse 144, respiration 44, and leucocytes 38,900. Apart from a dull percussion-note and distant breath-sounds at the site of an old empyema there were no physical signs in the chest, either at 10 a.m. or 8 p.m. Defervescence occurred by crisis at midnight. A skiagram taken the following day showed a triangular area of consolidation peripherally located in the upper part of the left lung. Complete recovery took place.

J. D. Rolleston.

Unresolved pneumonia ('*Arch. of Ped.*,' 1917, xxxiv, *p.* 686).—**J. H. Hess**, as the result of observation of twenty-two cases, comes to the following conclusions: (1) Tuberculosis is frequently a complicating, if not the primary factor, in many of the fatal cases, and unquestionably frequently a factor in delayed resolution in cases which recover. (2) Empyema, especially of the interlobular type, must be excluded. (3) Rare factors, *e. g.* syphilis, foreign body, and new growths must not be forgotten. (4) The diagnosis of non-tuberculous interstitial pneumonia should only be made after excluding all other conditions. J. D. Rolleston.

Traumatic or contusional pneumonia ('*Clin. Journ.*,' 1916, xlv, *p.* 241).—**F. Parkes Weber.**—Probably in the more favourable cases there is less expectoration than in ordinary pneumonia. Early hæmoptysis due to mechanical injury of the lung is found in some cases. External bruising is often present, but may be absent altogether. A crisis may occur, as in typical pneumonia. Recovery is the rule, but the proportion of fatal cases is considerable. The author records, among others, several illustrative cases in children aged from 2 to 14 years.

J. D. Rolleston.

Massive right lobar pneumonia, rapidly fatal (*'Arch. de Méd. des Enf.,'* 1917, xx, *p.* 25).—**J. Comby.**—Lobar pneumonia is generally a mild affection in children, and presents a very low mortality, so that the following case is of some interest. A girl, aged 5 years, who had been coughing for some days, was suddenly seized with shivering and severe pain in the right side of the abdomen, which was at first mistaken for appendicitis. Intense dyspnœa set in, and death took place twenty-four hours from the onset. Post-mortem: the whole of the right lung formed a solid block.

J. D. Rolleston.

The effect of cold air on the blood-pressure in pneumonia in childhood (*'Amer. Journ. Dis. Child.,'* 1916, xii, *p.* 445).—**J. L. Morse** and **D. M. Hassman.**—The cold-air treatment of pneumonia in children was first advocated by Northrup (*v.* British Journal of Children's Diseases, 1907, iv, pp. 32 and 314). Howland and Hoobler (*ibid.*, 1912, ix, p. 476), attributed the success of the treatment to a rise of blood-pressure, but their results were not confined by Freeman or Cunningham (*ibid.*, 1917, xiv, pp. 228, 229.) As the result of 387 observations on thirty-two cases of pneumonia in children aged from 2 to 10 years, Morse and Hassman came to the following conclusions: (1) There is no constant relation between the systolic, the diastolic, or the pulse-pressure and the severity of the pneumonia or the temperature of the surrounding air. (2) The rates of both the pulse and respiration vary directly with the temperature of the surrounding air. (3) The patients seemed to be more comfortable out of doors than in the house. (4) No conclusions are justified as to the effect of cold-air treatment on the mortality of pneumonia in childhood. J. D. Rolleston.

Two cases of subcutaneous emphysema of pulmonary origin (*'Riv. di. Clin. Pediat.,'* 1917, xxv, *p.* 294).—**G. Squarti** publishes two cases of 4 years and 3 months, the former due to diffuse bilateral tuberculous broncho-pneumonia, and in the latter were numerous enlarged peribronchial glands and emphysema of the mediastinum, while the pericardium, the tissue around the vessels, bronchi and trachea and œsophagus were all notably infiltrated with air. There was, moreover, capillary bronchitis and diffuse foci of broncho-pneumonia. A few Koch's bacilli were found. There was a strong syphilitic taint, but careful research failed to discover any spirochætes. Vincent Dickinson.

Tuberculosis.

Miliary tuberculosis in the first weeks of life (*' Riv. di Clin. Pediat.,'* 1916, xiv, *p.* 449).—**A. F. Canelli** describes the case of a boy, aged 1 month, born at term, of a chronic tuberculous mother, and breast-fed. Very few similar cases are on record occurring in the first three months of life. The visceral pleura was covered in parts by a fibrinous exudation. Subacute bilateral catarrhal bronchitis. Lungs congested, finely granular to the touch. Section homogeneously studded with nodules, miliary or submiliary, round, prominent, opaque, dirty green or yellowish white. Caseous infiltration circumscribed to the antero-posterior edge of the middle lobe of the right lung. Thymus normal. Thyroid congested with a few miliary nodules on the external surface. A group of tracheo-bronchial glands showed signs of caseation and softening. Mediastinal glands congested, but free from signs of tubercle. A few submiliary nodules in liver, many in spleen; other organs free from tubercle. VINCENT DICKINSON.

Pulmonary tuberculosis in the first two years of life (*'Paris Méd.*, 1917, VII, *p.* 109) —**H. Barbier.**—From 1905–1913, 1856 infants in the first two years of life were admitted to Barbier's service at the Hôpital Hérold Of the 770 fatal cases 261, or 34 per cent., were due to tuberculosis; 499 necropsies were made, and in 194 cases, or 39 per cent., tuberculous lesions were found. This shows that the incidence of tuberculosis is very high at this age, for by taking into account the autopsies and the cases in which the diagnosis could be established during life by laboratory methods, a total of 460 cases, or 25 per cent., is obtained among 1856 infants aged from 0 to 2 years. Barbier also discusses the occurrence of ulcerative pulmonary tuberculosis at this age, as is shown in the thesis of his pupil Aine (*v.* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1916, xiii, p. 350).
J. D. ROLLESTON.

The incidence of bovine infection of tuberculosis in children (*'Edin. Med. Journ.,'* 1917, I, *p.* 178).—**Chung Y. Wang** reaches these conclusions: (1) A bacteriological investigation into 281 cases of various clinical forms of tuberculosis in Edinburgh conducted by various workers has resulted in the isolation of bovine tubercle bacilli in 80 out of 102 cases (78·4 per cent.) under the age of five years; in 45 out of 64 cases (70·3 per cent.) between five and sixteen years; and in 9 out of 115 cases (7·8 per cent.) above sixteen years. These percentages of bovine tuberculosis are considerably higher than those obtained in England and in other countries. (2) The most common fatal affections of tuberculosis in childhood, and especially in early infancy, are abdominal tuberculosis and tuberculous meningitis, and they, together, are responsible for about 90 per cent. of the summed mortality from tuberculosis in children under one year, and about 75 per cent. in children between one and five years. The material from 9 children dead from these two diseases was examined bacteriologically, and from 6 the bovine type of tubercle bacillus was isolated. (3) A large percentage of children in Edinburgh is fed wholly or partly on cow's milk, and in a great number of instances the milk is consumed raw. These two incidents, together with the high percentage of tuberculous cow's milk, give an explanation of the prevalence of abdominal tuberculosis in Edinburgh, and, further, would account for the infection in the 6 cases of abdominal tuberculosis and tuberculous meningitis from which bovine tubercle bacilli were obtained. (4) Children who were bottle-fed on raw cow's milk and also those fed on boiled cow's milk were tested with tuberculin; it was found that 37·5 per cent. of the first group of cases reacted, as against 15·4 per cent. of the second group. If the reaction be accepted as an indication of the presence of an infection in the body, the result, in a measure, affords corroboration of the bacteriological findings. (5) Having regard to the fact that in early childhood abdominal tuberculosis and tuberculous meningitis conjointly contribute the greatest share towards the total deaths from tuberculosis, and in view of the prevalence of bovine tuberculosis among the young subjects in Edinburgh, it follows that the very high incidence of infection from the bovine source identified there involves a problem of real significance, and one which calls for close attention. From a prophylactic standpoint of view, any measure resorted to in combating the disease should, therefore, be directed not only against the human spread of infection, but also—and more particularly in the case of children—against the bovine source of infection. (6) Failing an adequate supervision of the milk supply, the most efficient way of safeguarding against the bovine type of tuberculosis is to subject all cow's milk for consumption to the process of sterilisation by boiling. (7) Lastly, it must be mentioned that the material submitted to the investigation was available from children of the poorer class, and the results arrived at should, therefore, not be considered as strictly applicable to the community in general, nor must they be taken to represent the conditions prevailing in other localities, where the environment might be widely different. J. Allan.

Fever—the initial sign of tuberculous infection in infants ('*Arch. of Ped.*,' 1916, xxxiii, *p.* 171).—**M. S. Reuben.**—Fever is the first sign of tuberculous infection in infants. The fever is of sudden onset, at first high (seven to fourteen days), is remittent, and gradually comes down by lysis, but not to normal; it continues slightly above normal, 100–101° F., for twelve to twenty weeks, with periods of complete apyrexia; exacerbations (two to three) of high fever of the same type as that of the onset usually occur. At the onset of the fever no physical signs are present. Fourteen per cent. of prolonged febrile conditions in infants diagnosed as influenza gave a positive von Pirquet's reaction. Possibly many other fevers of obscure origin are due to a reaction of the body to tuberculous infection. The tuberculin reaction, which usually becomes positive at the onset of the fever, should be performed on every infant who has an idiopathic fever without physical signs. J. D. Rolleston.

Diagnosis of pulmonary tuberculosis in children ('*Med. Record*,' 1917, xcii, *p.* 406).—**M. Fishberg** says that pulmonary tuberculosis of the same type as in adults is rare. (This is hardly in accordance with English experience.) Tuberculosis of the tracheo-bronchial glands in children is characterised by a croupy cough and progressive emaciation or by a failure to gain weight. The temperature may be continuous in progressive cases, reaching 104° F., remittent, or, in later stages, intermittent. It is found that many children with acute or chronic pharyngeal catarrh, enlarged tonsils and adenoids have fever for months. It is found that sweats due to phthisis occur after the child has been in bed from four to six hours, while in non-tuberculous children the sweats occur soon after the child has been put to bed. The pulse-rate is important. In progressive cases with high fever it may be over 120. In sluggish cases it is hardly ever below 100 per minute in children under seven and above 90 in older children. The apex is almost invariably found to be implicated, and there is dulness there and in the interscapular space. Crepitant or subcrepitant *râles* are heard, and these are rarely heard in the apical collapse due to enlarged tonsils and adenoids. The X rays are of value, but not all incipient lesions reveal themselves on the plate. Calcified and sclerosed glands give large shadows. X-ray findings without constitutional symptoms do not justify a diagnosis of phthisis. Christopher Rolleston.

Diagnosis of tuberculosis in children ('*Boston Med. and Surg. Journ.*,' 1917, clxxvii, *p.* 138).—**H. D. Chadwick** and **R. Morgan** emphasise the importance of symptoms indicating tuberculin absorption, viz. weakness, undue fatigue, fever, poor appetite, failure to gain or loss of weight, and nervous irritability. The local symptoms are cough, hoarseness, and occasionally blood-streaked sputum. The usual physical signs are dulness in the interscapular region radiating into the apices at the back, frequently not elicited in front. There may or may not be changes in the respiratory sounds. *Râles* may or may not be present. Constitutional and local symptoms and a history of exposure are to be given greater weight in making a diagnosis of active tuberculosis than the presence or absence of physical signs. Percussion is more important than auscultation.

J. D. Rolleston.

A tuberculosis survey of an Alaska Eskimo village, using children under the age of 15 years as an index (*'Med. Record,* 1916, xc, *p.* 663). —**H. C. Michie** summarises his paper as follows: (1) More than 61·5 per cent. of the Eskimo children under the age of 15 are tuberculous in one of Alaska's cleanest villages. (2) Their environment is such that tuberculosis must increase amongst them. (3) They offer one of the greatest fields for medical missionary work. (4) From an hygienic standpoint their entire system of living is wrong. (5) The only source of relief seems to be the enactment of necessary legislation to prevent free traders from robbing the Eskimo of his small products and larger medical appropriations to the Bureau of Education for use in Alaska. J. D. Rolleston.

Recurrent hilus infiltration (*'Amer. Journ. Dis. Child.,'* 1917, xi *p.* 198).—**H. Wessler** and **M. H. Bass.**—This unusual form of tuberculosis in children is found between the ages of 2 and 8 and does not occur in infancy. In the vast majority of cases it occurs on the right side, and its point of predilection is the lung in the immediate vicinity of the fissure between the upper and middle lobes. The base of the lesion is at the hilus and the apex is near the axilla. The symptoms are general debility, loss of weight, slight cough, and night sweats. Physical examination is completely negative unless a considerable mass of lung tissue is involved. In such cases, with a positive von Pirquet reaction, X-ray examination is imperative, especially as the lesion is a curable one, provided appropriate treatment is followed. Two illustrative cases are recorded. J. D. Rolleston.

Primary tuberculosis of the faucial tonsils in children (*'Journ. of Path. and Bact.,'* 1917, xxi, *p.* 248).—**A. P. Mitchell.**—This report was made to the National Medical Research Committee. The author considers that his investigation warrants the following conclusions: (1) Tuberculosis of the upper, deep, cervical glands develops from a primary focus in the faucial tonsils much more frequently than is generally supposed. (2) Primary tuberculosis of the faucial tonsils can be recognised only by the aid of the microscope and by inoculation experiments. The lesions are found in certain localities, namely, immediately under the surface epithelium and near the mouth of the lacunæ, in relation to the deeper portions of the crypts, or deep in the tonsil close to the capsule. The first-mentioned site supplied the greatest number of examples. (3) Hypertrophied faucial tonsils are the seat of primary tuberculosis, though rarely as compared with tonsils from cases of tuberculous adenitis. (4) The experimental results indicate that in Scotland, at any rate, primary tuberculosis of the faucial tonsils in children must be attributed to the drinking of milk from tuberculous cows, rather than to the inhalation of human tubercle bacilli conveyed by dried sputum or the moist spray from the coughing of a consumptive patient. (5) Bovine and human types of tubercle bacilli are present in the tonsillar crypts of a small percentage of children without demonstrable tuberculous lesions either in the tonsils or elsewhere. (6) Tonsillectomy is essential in all cases of tuberculous cervical adenitis in children. (7) The prognosis is very slightly influenced in children in whom the faucial tonsils and cervical glands are simultaneously affected with tuberculosis. (8) The difficulties associated with the reform of the milk supply and the lengthened period which must elapse before it becomes possible to obtain a tubercle-free milk demand some means of rendering milk safe. The only immediate safeguard is to be had in the sterilisation by boiling of milk for the artificial feeding of infants and the nourishment of all children. MACLEOD YEARSLEY.

A case of tuberculous meningitis of unusually long duration (*'Practitioner,'* 1917, xcix, *p.* 390).—**G. H. Hickling** considers the child lived from the fourth to the ninth month suffering from this disease, which post-mortem examination revealed. F. R. B. ATKINSON.

A study of the blood in tuberculous meningitis (*'Amer. Journ. Dis. Child.,'* 1916, xi, *p.* 224).—**E. A. Morgan** made 252 counts on the 169 cases in the Babies' Hospital, New York, and came to the following conclusions: (1) The leucocyte count in tuberculous meningitis is higher than has hitherto been described. The average in his series was 20,900 per c.mm. with 72·6 per cent. polymorphonuclears. (2) The total leucocyte-count and the proportion of polymorphs vary with the stage of the disease, *e. g.* both counts increase as the disease advances. There is a relative but not absolute diminution of the mononuclears. (3) There is a definite relationship between the intensity of the tuberculin skin reaction on the one hand and the total leucocyte-count and polymorphonuclear percentage on the other. Diminution in the former is usually accompanied by an increase in the latter, both being evidence of a failing resistance by the body to tuberculous infection.

J. D. ROLLESTON.

Tuberculosis of the pons (*'Arch. de Méd. des Enf.,'* 1917, xx, *p.* 355).—**A. D'Espine** and **V. Demole** record a fatal case in a boy aged 7 years. At the autopsy, in addition to generalised tuberculosis, two solitary tubercles were found in the pons, one situated in the right eminentia teres and the other in the fibres of the pyramidal tract. The first tubercle had almost completely destroyed the nucleus of the right sixth nerve and had considerably damaged the facial at the level of the genu. This lesion explained the occurrence of convergent strabismus and right facial palsy. The second tubercle had only separated the fibres of the pyramidal tract without doing them any considerable damage. The presence of this lesion was indicated by exaggeration of the reflexes and ankle clonus only, without hemiplegia.

J. D. ROLLESTON.

Frequency of tuberculides in infancy and childhood and their relation to prognosis (*'Arch. of Ped.,'* 1917, xxxiv, *p.* 362).—**T. C. Hempelmann** studied 40 cases of tuberculosis in children showing papulo-necrotic tuberculides. Thirty of these were infants under 2 years, and the other 10 were between 2 and 12 years. Tuberculides occurred 30 times (23 per cent.) in a series of 130 cases of pulmonary tuberculosis; 62 were in the first year of life, and of these 21 showed tuberculides; 68 were between 1 and 2 years, and 9 of these (13·2 per cent.) showed tuberculides. In all but 1 of the 40 cases there was evidence of lung or tracheo-bronchial lymph node involvement in addition to the tuberculides. Tuberculides seem to bear no direct relation to prognosis, as some children were still under observation who had shown tuberculides 3, 4, or 5 years ago.

J. D. Rolleston.

Tuberculosis following ritual circumcision (*'Arch. of Ped.,'* 1917, xxxiv, *p.* 186).—**M. S. Reuben.**—A infant was circumcised on the eighth day by a mohel, who aspirated the wound by means of a glass tube. The wound healed within a week. Five weeks after the operation a swelling was noticed in the right groin. On examination the glands in the right groin, and to a less extent those in the left groin, were enlarged. Four small tubercular masses were found on the anterior surface of the circumcision scar. Microscopical examination showed that the tissue was infiltrated with numerous tubercles and diffuse tubercular inflammatory tissue. The infant's von Pirquet reaction was positive. The lungs and spleen were not affected. The mohel was found to have advanced pulmonary tuberculosis, and his sputum was loaded with tubercle bacilli. Excision of the tubercular tissue of the penis and inguinal glands was recommended. A review of the forty-two cases recorded in literature is appended (*v.* British Journal of Children's Diseases, 1913, x, *p.* 557). J. D. Rolleston.

Symmetrical tuberculous buboes in a girl aged 5 years (*'La Med. de los niños,'* 1917, xviii, *p.* 1).—**M. Vargas.**—The patient was brought to the dispensary with a fœtid sero-purulent discharge from the vulva and enlarged, painless, glandular enlargements in both groins. Numerous tubercle bacilli were found in the discharge. Repeated examination of the sputum was negative. Infection is attributed to the fact that the child did not wear drawers and frequently dragged itself along the ground.

J. D. Rolleston.

The transmission of bovine tuberculosis to human beings (*'Arch. of Ped.,'* 1917, xxxiv, *p.* 137).—**M. P. Ravenel** refers to the work of A. P. Mitchell (*v.* British Journal of Children's Diseases, 1915, xii, *pp.* 115, 117, 340) and others, and states that in animals it has been conclusively proved that pulmonary tuberculosis can be easily produced both by feeding and by injection of tubercle bacilli into the stomach, producing this type of disease and the oldest lesions in this part of the body. It seems almost certain that the same thing may take place in children.

J. D. Rolleston.

The value of the von Pirquet test as controlled by autopsy findings (*'Amer. Journ. Dis. Child.,'* 1917, xiv, *p.* 47).—**J. H. M. Knox, jun.**—This study is based on necropsies performed on 324 children whose ages ranged from birth to 12 years. Sixty-eight cases were found to have tuberculous lesions post mortem. In 61 of these the von Pirquet test had been made, with a positive result in 45 and a negative in 16. The latter consisted of cases with rapidly advancing, widespread, miliary tuberculosis, pulmonary tuberculosis with cavity formation, tuberculous meningitis or peritonitis. Forty-four of the 68 cases were coloured and 24 white, and of the 7 fatal cases under 6 months, 5 were coloured and 2 white. This supports the view that tuberculosis is more prevalent among the black than among the white races, and that infection occurs at an earlier period of life among the black. Of the 256 cases with no tuberculous lesions post mortem, the test had been made in 172 instances and was negative without exception. The writer concludes that von Pirquet's test is a most reliable aid in the detection of tuberculosis in children, that a positive reaction indicates invariably a tuberculous focus in the body, and that a persisting negative reaction establishes the fact that there is no tuberculous lesion except in those extremely ill patients where the presence of tuberculosis can readily be established by physical examination. J. D. ROLLESTON.

Surgical tuberculosis and child-welfare (*'Edin. Med. Journ.,'* 1917, I, *p.* 383).—**A. P. Mitchell** alleges that the prevalence of surgical tuberculosis amongst children may be summed up by saying that, though it cannot be expressed in exact figures, there is clear evidence that the disease is sufficiently prevalent to constitute a real danger to the community, and to urge the immediate necessity for some comprehensive and systematic attempt at prevention and cure. Such questions as those relating to poverty, improper feeding and housing must be faced. As a practical measure, tuberculin injections would appear to be of value in increasing the powers of resistance to the disease. Open-air schools are required for children who are definitely tuberculous, or come from tuberculous houses. The establishment of convalescent homes in the country for the adequate treatment of children affected by active tuberculosis is a much-felt want. The special care of children during convalescence from measles, whooping-cough, and other acute specific diseases is greatly to be desired. For the welfare of any community, large or small, the provision of a pure milk supply is of the utmost importance—clean milk of good quality from healthy cows and protected from contamination. The powers at present vested in our local authorities are inadequate. What is most wanted is a well-informed public opinion which will demand new and more drastic powers for the authorities, and insist upon these powers being exercised to their full extent. There are three clearly-defined methods by which children may be protected from the dangers of tuberculous cow's milk : (1) The elimination of tuberculosis from cows ; (2) boil the milk ; (3) the breast-feeding of infants. J. ALLAN.

Otology, Rhinology and Laryngology.

Diseases of the ear, nose, and throat in relation to child welfare (*'Edin. Med. Journ.,'* 1917, I, *p.* 422).—**J. S. Fraser** considers that diseases of the ear, nose, and throat have a very intimate relation to child wolfare. Affections of the nose and throat may cause obstruction to breathing through the proper channels and thus interfere with suckling in infants and retard the bodily and even the mental development of older children. Diseases of the ear not only give rise to deafness, and so interfere with education, but not infrequently endanger the child's life. The author makes the following recommendations: (1) The treatment of the syphilitic mother before the birth of her child. (2) Health visitors should be instructed in diseases of the ear, nose, and throat. (3) Children who show signs of nasal obstruction or of deafness, or "running ears," should to taken to child dispensaries, where they should be examined by the specialist attached to the dispensary. Treatment of slight cases should be carried out at the dispensary by the specialist or by skilled nurses under his supervision. More severe cases

should be sent to special hospitals. (4) On coming to school all children should be examined as regards the condition of the ear, nose, and throat. The hearing of both ears should be tested. All cases showing any abnormality should be passed on for examination by the specialist attached to the school clinics. Teachers should call the attention of the school medical officer to any child whom they suspect to be suffering from an affection of the ear, nose, and throat. For this purpose the teachers should be instructed regarding these diseases. Treatment should be carried out either at the school clinics or at hospitals. (5) Specialists should be appointed to fever hospitals to look after cases of disease of the ear, nose, and throat occurring in the course of the infectious fevers. Children suffering from deafness and otorrhœa as the result of these diseases should not be sent home until they have thoroughly recovered. (6) With regard to tubercular disease of the ear in children, we must aim at prevention by dealing with the milk supply. When the disease has occurred operation holds out little hope. (7) Convalescent homes should receive certain cases of chronic nasal catarrh, certain cases after operation for enlarged tonsils and adenoids, cases of subacute middle-ear suppuration, in which fresh air, etc., might obviate the necessity of operation. Certain cases after operation on the ear—especially those for tubercular disease—should also be admitted to convalescent homes. (8) Special classes or schools should be instituted for children who are hard of hearing, but are not sufficiently deaf to require admission to deaf-mute schools. (9) Deaf-mutes should enter school at the age of three or four years, and not at seven years as at present, and should remain until they have learnt a trade. (10) There is room for the extension of the excellent lip-reading classes at present provided by the educational authorities in Edinburgh.
J. ALLAN.

Gastric symptoms due to irritation in the external ear ('*Journ. Amer. Med. Assoc.*,' 1917, LXVIII, *p.* 828).—**M. Goldsmith** draws attention to the fact that persistent vomiting and other gastric symptoms which do not correspond with the usual types of digestive disease may sometimes be due to wax or a foreign body in the external auditory meatus. A girl, aged 12 years, was cured by the removal of a glass bead covered with cerumen; a boy, aged 14 years, by the removal of a pea-nut; and a girl, aged 18 years, by the removal of the broken end of an apple-twig. The anatomical explanation of these cases is as follows: Where the pneumogastric nerve passes through the jugular foramen, there occurs an enlargement known as the ganglion of the root. To this is attached the accessory portion of the spinal accessory nerve. From the ganglion spring two branches, the meningeal and auricular. The latter, or nerve of Arnold, is joined by a filament from the glossopharyngeal. It then passes through the temporal bone, and emerges at the auricular fissure between the mastoid process and external auditory meatus, and divides into two branches. One communicates with the posterior auricular (branch of the facial), while the other branch supplies the skin at the back part of the auricle and the posterior inferior portion of the external meatus. Irritation of this branch of the vagus, or nerve of Arnold, is the explanation of vomiting having its origin in the external ear.
T. R. WHIPHAM.

Acute otitis media ('*Lancet*,' 1916, I, *p.* 1126).—**E. D. D. Davis,** at a meeting of the Royal Society of Medicine, Section of Otology, described a fatal case of double acute otitis media, complicated by ulcerative endocarditis. The patient, a youth, aged 16 years, had discharge from both ears following upon influenza. There were numerous indications in the mastoid and body generally of a septic condition, and operation failed to save him.

J. ALLAN.

Enterococcal otitis media (*'Arch. Españ. de Ped.,'* 1917, I, *p* 44).—**C. J. Encina.**—A boy, aged 4 years, who had recently had an attack of enterocolitis, developed pain in the right ear, and became very restless and feverish. The tympanic membrane was found to be intensely red and was incised. The pus was found to contain the enterococcus in pure culture. Complete recovery took place within a month. Encina attributes the otitis to spread of infection from the alimentary canal by the Eustachian tube.

J. D. ROLLESTON.

Hearing tests from a practical standpoint (*'Boston Med. and Surg. Journ.,'* 1917, CLXXVII, *p.* 213).—**G. L. Richards.**—Speaking of the time-consuming ordeal of elaborate tests, the author seeks a practical, scientific plan which shall be both time-saving and accurate. He does not appear to have succeeded. His remarks on hearing tests in children are, however, good. They are often unwilling or unable to answer correctly, and they tire easily. Prolonged examinations are unsatisfactory. Questions answerable by a movement, such as a nod of the head, are therefore best. He rightly notes that many children cannot be accurately tested until the third or fourth year in school. MACLEOD YEARSLEY.

Auricular education of deaf children (*'Med. Record,'* 1917, XCII, *p.* 241).—**J. Dutton Wright** points out that the co-operation of physicians is needed in order that advantage may be taken of unrealised possibilities of educating slight powers of hearing remaining in the cases of many deaf children attending special schools for the deaf. Since the intensity with which a sound affects the ear varies with the square of the distance, it is necessary to awaken the partially deaf child's sense of sound by speaking at about one inch from the ear. Teaching must be accomplished by first awakening attention to sounds, then by patiently training the brain to associate ideas with words. The use of the unaided voice gives better results than the employment of artificial aids. As regards the standard for the amount of hearing power that must be possessed by the deaf child to respond satisfactorily to educational auricular training, such islands of hearing as remain must be located within the range of the speaking voice. For others lip-reading, etc., are alone available. The author's own standard of amount is the child's ability to learn to distinguish between five unlike vowel sounds shouted one inch from his ear. MACLEOD YEARSLEY.

Complications of acute middle-ear suppuration and the difficulties in making a diagnosis in certain cases (*'Med. Record,'* 1917, XCI, *p.* 1127).—**Gorham Bacon.**—A valuable paper to the general practitioner. In the continuation of high temperature after incision of the drumhead, a warning is given as to the possibility of pneumonia. An interesting case is cited in which pyelitis simulated sigmoid thrombosis in a girl, aged 7 months. Another condition easily mistaken for sinus thrombasis is erysipelas. Similarly, sinus thrombosis must not be mistaken for erysipelas. MACLEOD YEARSLEY.

Latent lateral sinus tuberculosis (*'Lancet,'* 1916, I, *p.* 1126).—**Sydney Scott,** at a meeting of the Royal Society of Medicine, Section of Otology, showed a case of latent tuberculosis of the lateral sinus secondary to chronic suppurating otitis media, with a histological specimen of the sinus contents. At 5 years of age the child was operated upon by a simple procedure for the removal of a mastoid abscess. A sinus persisted, she had attacks of headache, and the tympanic membrane was obscured by pale granulations deep in the meatus. Schwartz's operation resulted in a cure, as there was now no sign of disease a year after the operation.

J. ALLAN.

Some conditions leading to incorrect diagnosis of adenoids in children (*'Boston Med. and Surg. Journ.,'* 1917, CLXXVI, *p.* 875).—**V. Dabney.**—Examination of the tympanic membrane is insisted upon in the diagnosis of adenoids, "though inspection of" the nose and throat "will, of course, frequently reveal its presence" (!). The conditions liable to be mistaken for adenoids are, according to the writer, an unwise indulgence of "soda crackers"; extension of the vomer back to the pharyngeal wall; polypi; fibromata; fibrosarcoma; intumescence of the turbinates due to distension of the bladder; anaphylaxis due to ingestion of eggs and milk; blind reliance on digital examination and posterior rhinoscopy.

MACLEOD YEARSLEY.

Treatment of adenoids in infants (*'Thèses de Paris,'* 1916–17, No. 69).—**E. Feldstein.**—The frequency of adenoids in infancy varies with different writers. Chaumier in a total of 232 cases found 26 in children under 1 year. Cuvillier in a total of 425 found 97 in children aged from 0 to 5 years. Guéneall estimates that about one-tenth of all the cases are found in infancy. Five different types are described: (1) Respiratory; (2) digestive; (3) infective; (4) type associated with reflex complications at a distance, *e. g.* paroxysmal cough and spasm of the glottis; (5) type associated with aural disturbance. The proper treatment of adenoids in infancy consists in removal either with forceps or Moure's adenotome. Medical treatment, either local or general, should be reserved for the following cases: (1) When the adenoids are infected (acute or subacute, simple or complicated adenoiditis); (2) as an adjuvant to surgical treatment to render the nose and pharynx aseptic before and after operation; (3) if there are contra-indications to operation or if the parents refuse it (*cf.* BRITISH JOURNAL OF CHILDREN'S DISEASES, x, *p.* 134).

J. D. ROLLESTON.

Sinusitis in children (*'New York Med. Journ.,'* 1917, CVI, *p.* 550).—**K. A. Phelps** states that the condition has only recently attracted any attention. Authorities differ much as to its frequency. The writer states that though not very frequent, it is of great importance. The sinuses are more variable in size and shape than any other structure of the body. The maxillary sinus and the ethmoidal cells are both present at birth, but they are not fully developed till the age of 16 years. The sphenoidal sinus is not present at birth, but can be made out at the age of 3 years. The causes of sinusitis were coryza, infectious diseases such as scarlet fever, measles, etc.; it may follow tonsillectomy or the removal of a tooth. Acute sinusitis is more frequent than chronic; it is often accompanied by cellulitis in the orbit or eyelids and sometimes by otitis media. Acute cases may clear up spontaneously. Chronic sinusitis may act as a focus of infection for coryza, headaches, tonsillitis, bronchitis, etc., and also joint metastases. The most common symptoms are nasal discharge, headaches, and nasal obstruction. The treatment is the same as in the adult. J. Porter Parkinson.

Myxosarcoma of the soft palate (*'Edin. Med. Journ.,'* 1917, ii, *p.* 24). —**D. M. Greig** reports a case in a boy, aged 13 years. He was a healthy lad, well nourished, well formed, and of good colour; family history satisfactory; no record of growths or congenital abnormalities. Four years previously it was noticed that he was speaking somewhat thickly, due to a growth on the soft palate, which was removed under local anæsthesia. Recurrence took place a year after the first operation, and it was then more thoroughly removed and the base of the tumour cauterised frequently thereafter. Recurrence again took place. On inspection the entire soft palate, the uvula and the posterior half of the hard palate were seen to be hidden by a flattened papillomatous-looking growth split up into many lobules and obviously attached by a broad base. There was no induration, the general surface of the tumour was smooth, no individual lobule projecting. The growth was freely removed. The pathological report stated: "The lesion, microscopically, has the structure of myxosarcoma. The papillomatous surface has probably resulted from the tendency of the tumour to assume a lobulated form. The myxomatous element explains the peculiar translucent, bulbous appearance of the surface processes." The boy had an easy and rapid convalescence, though, of course, he at once developed and maintained a nasal intonation. He remained free of any trouble for nine months, when there was a small recurrence on the right side. This small recurrence was freely excised, and he has had no trouble since. J. Allan.

The tonsil question in children (*'Annals of Otology,'* 1917, xxvi, *p.* 129).—**G. W. Boot** gives the following rules in performing tonsillectomy in children: (1) Operate only for definite disease. (2) Be sure the condition of the tonsil is the cause of the disease. (3) Always do a urinalysis before operating. (4) Always inquire for a possible history of bleeding. (5) If not certain, test the coagulability of the blood. (6) Don't push the anæsthetic to the abolition of the laryngeal reflex. (7) Don't be slow in operating. (8) Don't destroy a functionating organ unless the gain more than offsets the loss. (9) The younger the patient the more carefully the need of tonsillectomy should be established. Macleod Yearsley.

The removal of the tonsil as a prophylactic measure (*'New York State Med. Journ.,'* 1916, xvi, *p.* 586).—**H. H. Forbes**, though not advocating the removal of every tonsil in every patient, maintains that all tonsils where a disease condition is in doubt, should be removed, and that the procedure, far from being harmful, is a long step in advance in prophylaxis and preventative medicine. J. Allan.

The tonsils and rheumatism (*'Med. Record,'* 1917, xcii, *p.* 364).—In discussing the relations of rheumatism and the tonsils, **A. Bardes** points out that there are three stages in life when the throat is especially assailable: infancy, adolescence, and middle age; and these are the periods when rheumatism is most prevalent. The most dangerous period is between 13 and 18 years. Rheumatism is a true pyæmia, as shown by the symptoms, and the differences between rheumatic fever and chronic rheumatism are those of degree rather than kind. Tonsil enucleation is advocated.

Macleod Yearsley.

Immediate tonsillectomy in incipient acute endocarditis of tonsillar origin ('*Arch. of Ped.,*' 1917, xxxiv, *p.* 118).—**E. C. Fleischner** records four cases of acute endocarditis in children, aged from 9 months to 6 years, in whom tonsillectomy was performed for subacute tonsillitis with rapid subsidence of the symptoms. Fleischner supports the treatment by the following considerations: (1) Acute endocarditis is always a secondary infection. (2) A very large number of these cases are due to a primary focus in diseased tonsils. J. D. Rolleston.

Hæmorrhage following tonsillectomy ('*Boston Med. and Surg. Journ.,*' 1917, clxxvii, *p.* 594).—**H. H. Amsden.**—A boy, aged 9 years, had tonsillectomy performed on Monday and remained apparently all right till the following Saturday, when he began to bleed freely. Inspection of the throat under ether showed a large button-hole of the right anterior pillar from the upper angle of which the bleeding occurred, which was easily controlled by a catgut stitch. There was much shock, necessitating subcutaneous injection of 500 c.c. salt solution. The late occurrence of the hæmorrhage was obviously due to contracture of the tissues in healing, thus allowing the upper angle of the wound to open. J. D. Rolleston.

Some hints on the tonsil-adenoid operation based on an experience of 5000 cases ('*Practitioner,*' 1917, xcix, *p.* 109).—**Dan McKenzie.**—One of the most liberal and soundly-argued papers yet published on this well-worn subject. It is one that should be read by all, specialists and general practitioners alike, and, having said this, it is best to give merely headings than to spoil future perusal by extracts or quotations. The author enunciates the clinical rule—*in middle-ear suppuration always examine for adenoids.* But in acute suppuration wait until the acute ear symptoms have subsided. Before tonsil and adenoid operations, avoid mishaps from the mouth being a source of septic infection. Diminish oral sepsis before operation and ear infection after operation is practically abolished. There is no risk of injury to the constitution by the entire removal of tonsils; they are merely nude lymphatic glands. In children *never dissect out the tonsils,* use a guillotine. In the adult the reverse is the case, the guillotine being unreliable. Severe tonsillar hæmorrhage is seldom either reactionary or secondary; *it is primary.* Before the patient leaves the table it should be made certain that bleeding has stopped. Back in bed, never allow the patient to lie on the back; let the position be semi-prone. Excellent directions for the treatment of serious hæmorrhage are given, and the author remarks that calcium chloride is a favourite internal remedy—"it probably acts by comforting the surgeon's mind." The vast majority of cases of deafness from adenoids are merely due to tubal congestion and can be permanently cured by judicious inflation. Owing to the presence of adenoids in Rosenmüller's fossæ, it may be laid down as a clinical rule that no case of deafness has been properly examined unless the naso-pharyngoscope has been employed. Adenoids seldom recur when thoroughly removed. There is reason to believe that seemingly trivial attacks of middle-ear catarrh in children, manifested by nocturnal earache, frequently lead to serious irremediable deafness later on in life. This remark occurs early in the paper; the reviewer wishes to lay stress upon it by placing it last; it is what he has been endeavouring to inculcate for several years past. Macleod Yearsley.

Relation of tonsillar and naso-pharyngeal infections to general systemic disorders ('*Bull. Johns Hopkins Hosp.,*' 1917, xxviii, *p.* 1).—

S. J. Crowe, S. S. Watkins, and **A. S. Rothholz,** in a paper based on 1000 tonsillectomies, give the following indications and contra-indications for tonsillectomy. Indications for tonsillectomy: (1) Local disorders in the upper-air passages, *e. g.* hyperplasia of the tonsils, frequent tonsillitis or quinsy, chronic laryngitis or bronchitis, chronic catarrhal otitis or suppurative otitis media, chronic diphtheria carriers, reflex neuroses in children (including asthma), paroxysmal nocturnal attacks of coughing, enuresis and convulsive seizures, new growth. (2) Local trouble in the cervical glands, including both simple hyperplasia and tuberculous adenitis. (3) General systemic disorders secondary to a focus of infection in the tonsils, *e. g.* infectious arthritis, myalgia or myositis, the early stages of a glomeratonephritis, and various nervous symptoms designated as neurasthenia. (4) As a prophylactic measure in chorea, acute rheumatic fever, and heart lesions. Contra-indications for tonsillectomy: (1) A tonsillectomy should never be performed during the acute stage; it is best to wait at least three weeks until after all symptoms have subsided. Several cases of cerebral (usually temporary lobe) abscess have been reported following performance of a tonsillectomy when the tonsils were inflamed. (2) Diabtes. (3) Chronic deforming types of arthritis. (4) Acute stage of chorea, acute rheumatic fever or endocarditis. (5) As a general rule, the tonsils should not be removed in children up to fifteen years of age solely because they are enlarged or detritus is seen in the crypts. Removal of adenoids, regulation of the digestive system, and general hygienic measures will often prove sufficient.
J. D. Rolleston.

Congenital laryngeal stridor in the new-born due to an anomaly of the muscles of the larynx; autopsy (*'Arch. de Méd. des Enf.,'* 1917, xx, *p.* 530).—**G. Variot** reports a case in a child who died of bronchopneumonia at the age of 9 weeks, after having had laryngeal stridor since birth. The autopsy showed that the vestibule of the larynx had a normal shape, and that the ary-epiglottic folds showed no anomaly. On the other hand, there was an absence of the right posterior crico-arytenoid muscle with flattening of the vocal cords more marked on the right. The stridor was, therefore, related to that sometimes observed in paralysis of the vocal cords.
J. D. Rolleston.

Obstructive and adhesive panlaryngitis after tracheotomy (*'La med. de los niños,'* 1917, xviii, *p.* 65).—**M. Vargas.**—The patient was a boy, aged 2½ years, who had been tracheotomised eight months before, and had never been able to do without the tube. On opening up the wound under an anæsthetic, Vargas found the interior of the larynx completely filled by inflammatory tissue which had formed adhesions with the posterior surface of the epiglottis and drawn it down to the laryngeal vestibule by cicatricial contraction. Vargas cleaned the vocal cords with the point of the knife, passed a grooved director by circular movements through the larynx so as to re-establish an opening, followed by a leaden catheter up to the mouth, and left in a rubber tube extending from the tracheal wound to the mouth for twenty days. The tube was then removed, and the child could then breathe freely through the mouth and speak. There is no previous case on record of the epiglottis becoming adherent to the vestibule and becoming attached to a mass of cicatricial tissue filling the larynx. Vargas discusses other obstructive processes in the larynx, both congenital and acquired, including Riddell's case of complete occlusion of the trachea, due to injury to the cricoid cartilage after intubation and tracheotomy (*v.* British Journal of Children's Diseases, 1914, xi, p. 476).

J. D. Rolleston.

Correspondence.

To the Editor of The British Journal of Children's Diseases.

Sir,—We have the honour to transmit to you a Statement adopted by the Royal College of Physicians of Edinburgh dealing with the question of the establishment of a Ministry of Health.

The College was led to take up the consideration of this matter by the attention which has been recently given to it, and by the general interest aroused by its discussion in the public press.

The opening paragraphs of the Statement explain the position the College occupies under Royal Charter, and we would emphasise the fact that under the privileges conferred by the Charter it is the duty of the College to consider "any matters affecting the general interests of the medical profession and the public."

Acting on this privilege the College has considered the question of the establishment of a Ministry of Health, and has accepted the general proposition that it would be to the advantage of the public health were the various existing health agencies co-ordinated and brought under the supervision, control, and initiative of a Board of Health, constituted on the lines suggested in the Statement, and presided over by a Minister of State.

The only aspect of the question which leads to a divergence of view is as to the desirability of proceeding with a scheme of such magnitude at this strenuous and anxious time in the Nation's history, when the medical forces of the country are largely disorganised. In the circumstances the prevailing opinion of the College is that the establishment of a Ministry of Health ought to be postponed until after the war.

We have the honour to be
Your most obedient Servants,
William Russell, M.D., *President.*
A. Dingwall-Fordyce, M.D., *Secretary.*

Royal College of Physicians,
Edinburgh;
December 17th, 1917.

Statement by the Royal College of Physicians of Edinburgh regarding the Proposal to Institute a Ministry of Health.

The Royal College of Physicians of Edinburgh was erected by Royal Charter granted by His Majesty King Charles the Second, 29th November 1681, and incorporated anew by Royal Charter granted by Her Majesty Queen Victoria, 16th August 1861.

The Royal College has been, and continues to be, largely concerned with matters affecting the Health of the nation. It has taken considerable part in developing medical science and practice. It is therefore particularly interested in all proposals which have for their aim the erection of a State Department of Health.

The Fellows of the College have given careful consideration to the subject. The statement which follows is the outcome of deliberations, which had regard to the great questions of Health and the urgent need of their recognition and effective handling by the State. The standpoint of the College is frankly medical, not political or departmental.

The administration of Health measures has in the past been developed in connection with a number of Government Departments, such as the Local Government Board, Home Office, Board of Education, Insurance Commission.

Each of the several Departments has worked within the limits of certain Acts of the Legislature dealing with definite subjects and conferring definite powers.

The Health of the Community has received benefit from the work of the Departments; but the operations of the Departments have not attained that comprehensive measure of success which the extent and gravity of the Health problem demand.

As regards Health questions, the sphere of the several Departments is limited, and, with increasing legislation, the overlapping which inevitably follows from their separation becomes steadily aggravated.

A fundamental weakness lies in the fact that in none of the Departments concerned is the control vested in a Minister appointed primarily to deal with Health problems.

From this division of interest and responsibility departmental difficulties are apt to arise; policy in regard to matters pertaining to Health tends to become subject to considerations of departmental jurisdiction; and the essential interest of Health questions is liable to be obscured.

Under the restrictions of the present system it has been impossible to evolve concerted means for dealing with the complex and ever widening problems of National Health. Not until these restrictions are removed will it be possible to attain effective and adequate machinery.

What is required is the creation of a Ministry which shall concern itself with Health matters pure and simple, and to whose jurisdiction shall be transferred from other Departments the operations of all existing enactments in so far as they deal with Health.

This opens up another aspect of the question, namely, the immense extent of the issues involved.

Existing Acts deal only with sections and fragments of the subject. A multitude of conditions affecting Health are not included in the purview of the Acts, and have hitherto been left untouched.

The Minister of Health must handle the whole problem. He must be concerned not only with questions already dealt with by the Legislature, such as Infectious Diseases, Infant Welfare, etc., but also with fresh questions arising from time to time, *e. g.* conditions causing or affecting forms of sickness and disease not yet included within the operation of Health Acts.

Such matters are frequently brought to light in the work of the medical profession. Beyond the treatment of individual cases by medical practitioners there are large questions concerning conditions to which sickness is due. These are certainly matters for a Ministry of Health.

To enable the Ministry to carry out its wide and highly complex functions, a Board of Health should be constituted, and its members selected in such a way as to ensure that the attention of the Ministry of Health would be directed to all matters affecting Health.

The Royal College of Physicians of Edinburgh is, therefore, of opinion that it is essential, in the public interest, that a Government Department should be erected to deal exclusively with Health.

The Royal College suggests:

I. That the Department should consist of the Minister and a Board of Health, of which the Minister should be Chairman and whose Members should be elected on the ground of experience and interest in matters pertaining to Health.

II. That the Purposes of the Department should be—
  1. To administer the Health Acts.
  2. To devise executive measures for dealing with Health problems not hitherto defined by legislative measures.
  3. To institute inquiries with a view to introduce measures for improving conditions affecting Health.
  4. To develop facilities for investigation of problems in Health and Disease as they may arise.

III. That the Board should include three Groups of Members—
  1. Administrative officials.
  2. Laymen with wide experience of Health problems, or in the administration of hospitals and other health agencies, official or voluntary.
  3. Medical members who have had experience in—
    (*a*) Public Health Service.
    (*b*) General Practice.
    (*c*) Special Clinical Departments, including Industrial Medicine.
    (*d*) Medical Research.
    (*e*) Medical Statistics.

In name and by Authority of the College,
William Russell, M.D., *President.*
A. Dingwall-Fordyce, M.D., *Secretary.*

Edinburgh, *December 6th*, 1917.

To the Editor of The British Journal of Children's Diseases.

Sir,—In a paper of mine on "A Case of Congenital Urticaria Pigmentosa with Remarks on Ætiology "(British Journal of Children's Diseases, 1916, xiii, *pp.* 301), I suggested that a syphilitic origin might be a point to consider. Since then, however, I have had another case of urticaria pigmentosa (N. 5092, 1917) in a male infant, aged 5 months, and which started at the age of two months. There was no suspicion of syphilis in either the mother or the child, and the Wassermann was negative in both.

Yours truly,
George Pernet, M.D.

Postscript.—In my paper on "Acquired Syphilis in Infants, with Remarks on Crèches" (British Journal of Children's Diseases, 1917, xiv, *pp.* 168–171), fourth line from bottom, p. 171, read "counsel" not "council."

Reviews.

Archivos Españoles de Pediatria. Revista Mensual. Redacción y Administración. Jardines 16, Madrid. Annual subscription: Spain and Latin America, 15 pesetas; other countries, 18 pesetas.

The lively interest taken in the study of children's diseases in Spain is shown by the fact that that country now possesses three journals devoted to pædiatrics—'La Medicina de los Niños,' now in its nineteenth year; 'La Pediatria Española,' founded in 1911; and 'Archivos Españoles de Pediatria,' which first appeared in the November of last year. The first number of this new review contains a paper by Dr. Martinez Vargas on the throat and skin in scarlet fever, an article on Schlatter's disease by Dr. Lopez Duran with an account of fourteen original cases, illustrated by photographs and skiagrams, and a clinical note by Dr. C. Jimenez Encina on a case of acute otitis media in which the enterococcus was the only organism found. In the December number Dr. José S. Covisa discusses some ætiological problems and the treatment of congenital syphilis, Dr. A. Romeo Lozona writes on migratory pneumonia in children, and Dr. Lafora contributes a clinical note on a case of diabetes insipidus and Fröhlich's syndrome in a child. In addition to reviews and society intelligence the Journal contains an abstract department, a valuable feature of which is the *résumé* given of the current number of the Spanish and foreign pædiatric journals. We wish our new-born contemporary a long and successful career.

J. D. R.

Acute Poliomyelitis. By George Draper, M.D., Associate in Medicine, College of Physicians and Surgeons, Columbia University; Associate Attending Physician Presbyterian Hospital, New York City. With a Foreword by Simon Flexner. 1917. Pp. 149; 19 illustrations. London: William Heinemann. Price 7s. 6d. net.

The conception of acute poliomyelitis, or perhaps better, polio-encephalomyelitis, as an acute infective disease, due to a specific virus, affecting the body as a whole, but having a special selective action on the nervous system and giving rise to a variety of symptoms dependent upon the portion of the nervous system more particularly affected, is a modern one, and as yet has not received the amount of attention it should. In the book before us this conception is detailed. In addition, the work may be taken as a practical guide to the diagnosis, care, and specific treatment of epidemic poliomyelitis.

Dr. Draper is already well known to students of poliomyelitis as one of the authors of the Rockefeller monograph, 'A Clinical Study of Acute Poliomyelitis,' by F. W. Peabody, G. Draper, and A. R. Dochez, which appeared in 1912, and since that publication has seen much of the large material presented by the epidemic of poliomyelitis which swept over the Eastern United States in the summer and autumn of 1916.

The book is divided into eleven chapters. The first gives a short account of the history of the disease, the following chapters dealing with ætiology, epidemiology, experimental work (including the distribution of the virus in the tissues, problems of immunity, the nature of the virus and its cultural characters), and pathology, give readable, short, and precise statements upon our present knowledge of these subjects. The importance of healthy carriers and of abortive cases receives due notice. Chapter VI is concerned with the "classification of types of poliomyelitis." Draper rejects Wickman's classification in terms of paralyses as "quite inadequate," and suggests one dependent upon the general systemic phase of the disease. "Three distinct groups have been separated. In the first two groups there develops a picture of general systemic infection from which the child appears to recover completely or in part, then to receive a second blow directly upon the cerebro-spinal tract. The first series, called the 'dromedary' group, from the temperature curve, shows clearly two distinct periods of illness with an interval of well-being. In the second series, called the 'straggling' group, this period of comparative well-being is not present, but there is a sustained course of indisposition of varying intensity. In the third, or 'sudden onset' group, all the signs point from the start to meningeal and nervous tissue involvement. A striking feature of the whole series is that the second portion of the first two groups is very similar to whole course of the sudden onset group." 50–80 per cent. of cases in any epidemic are, according to Draper, *abortive*, and never develop paralysis, but only by one or more of the following—fever, sore throat, upper respiratory tract involvement, malaise, or gastro-intestinal—give evidence of the infection. In Chapter VII the symptoms (padromata, onset, course, pain, spine-sign, reflexes, psychic, mucous membranes, digestive tract) are discussed. Chapter VIII deals with the clinical pathology of the blood and spinal fluid, Chapter IX with the paralyses, Chapter X with the prognosis, and Chapter XI with treatment. As an appendix to the last chapter is given a series of cases treated by serum. A list of fifty-three references to literature and an index complete the work, which may be recommended to all interested in this wide-spread and often misdiagnosed disease.

E. G. F.

PROBLEMS OF SUBNORMALITY. By J. E. WALLACE WALLIN, Director of the Psycho-educational Clinic, Board of Education, St. Louis. 1917. Pp. 285. New York: World Book Co.

THIS volume is concerned with the problems of the feeble-minded, the group between normal children on the one hand and imbeciles on the other. It is divided essentially into four parts, dealing respectively with: The exact diagnosis of the presence and degree of feeble-mindedness, the differential modes of education needed for such children, the questions of after-care, and the use to which the feeble-minded can be put, and the social and preventive problems concerned. In addition, there are chapters on the general question of the changing attitude towards the feeble-minded, epilepsy, State provision for defective children, and the hygiene of eugenic generation.

The most valuable portions of the book would seem to be the first section, which gives an interestingly written historical review of the development of our knowledge on the subject; and the second one, dealing with the problems of psychological diagnosis. Wallin rightly insists that this diagnosis and exact grading can only be made by specially trained experts.

"A few years ago the assumption was made that practically any intelligent person could determine whether or not a child or adult was feeble-minded by a few minutes' examination by means of the Binet-Simon scale, with the aid of certain arbitrary quantitative standards of mental retardation," whereas "it is not probable that it (this assumption) is now entertained by any considerable number of clinical psychologists." He gives a detailed and convincing criticism of the fallacies of the Binet-Simon scale, though he omits to mention what in the reviewer's opinion is the chief one—namely, that it makes no allowance for the varying affective, and often unconscious, attitude of different children towards the individual tasks comprising the examination. Wallin's own methods of examination lead him to define feeble-mindedness in a much narrower sense than is usually done, particularly in its upward direction, and he would not class any child as being feeble-minded, or as needing special education, unless there was reason to conclude that in the future he would not be able to earn his living independently.

The chapter on epilepsy is conventionally written, and the only contribution it makes is the description given of the characteristic reactions of the epileptic child to various intelligence tests. Most noteworthy is the omission of any account of Pierce Clark's recent remarkable work on the psychology of epilepsy. Indeed, one notes throughout an unfortunate failure to take advantage of the medical work done in the allied field of the neuroses.

Wallin had an unusually rich experience of most of the problems directly concerning feeble-minded children, and his book contains a mass of detailed and original observations and statistics. For those working in this field the book will be of very great value, but it is too diffusely written and too voluminous to be of much service to non-specialists. E. J.

ADENOIDS AND TONSILS. By ALGERNON COOLIDGE, M.D., Cambridge. Harvard University Press, 1916. Pp. 46. Price 2*s.* 6*d.* net.

THIS *brochure* belongs to a series of "Harvard Health Talks," which presents the substance of the public lectures delivered at the Medical School of Harvard University. The reason for such lectures and for such little books as these is a very commendable one. The points concerning tonsils and adenoids are fairly clearly put, and there is only one point at which we join issue with the author. The principal symptom of adenoids, he says, is disturbance to easy breathing through the nose in children. We would rather consider the frequent occurrence of colds in the head to be the most common (and most important) symptom. M. Y.

UNIVERSITY OF IOWA MONOGRAPHS: STUDIES IN MEDICINE. Edited by Prof. H. A. ALBERT, M.D. Vol. i, No. 10. September, 1917.

THIS collection of thirteen papers, all previously published, shows the activity of the medical faculty of the University, especially as regards the problems of metabolism and bacteriology. Dr. Louis Baumann and Prof. Campbell Howard, in a paper on "The Mineral Metabolism of Experimental Scurvy in the Guinea-pig, Induced by a Diet Confined to Oats and Water," determined the mineral metabolism of the normal guinea-pig, a subject on which apparently little was previously known, and then found that in experimental scurvy the mineral metabolism is profoundly affected. Dr.

Beifeld, of the Department of Pædiatrics, University of Michigan, contributes a *résumé* on infectious diseases with 300 references, and points out that the chief advances made during the last few years are the wider use of the so-called aseptic technique in the handling of patients, based on Grancher's views, and a tendency to attempt active immunisation as a means of either preventing these diseases or of forestalling their manifestations in a severe form. H. D. R.

THE PRESIDENT OF THE LOCAL GOVERNMENT BOARD AND CHILDREN'S YEAR.

The President of the National Sunday School Union has received the following letter from the President of the Local Government Board :

"The movement which you are initiating to make 1918 a 'Children's Year' is one that commands my strongest sympathy. As head of the Department mainly responsible for the health of the Nation, I feel a special interest in all proposals which have for their object the promotion of the health and welfare of the rising generation, and the stimulation of public interest in a subject of such vital importance to the Empire. The amount of work undertaken on behalf of the Nation's Children by Local Authorities and voluntary organisations, assisted by State grants, is constantly increasing, and as public opinion becomes further enlightened as to the needs of the present, and the possibilities of the future, it will demand a great expansion of that work. The enthusiasm which our Health Authorities are throwing into this work augurs well for the future. I am confident that they will not be found wanting, and I am sure that I may speak for them, as well as for myself, in welcoming your co-operation and wishing you success in the campaign which you have undertaken." W. Hayes Fisher.

AMERICA AND CHILDREN'S YEAR.

The President of the National Sunday School Union has been authoritatively informed that America, our Ally in the world-struggle for honour and freedom, has decided also to be our Ally in the unique effort which is being made this year for the Welfare of the Young. "Children's Year" will start throughout the United States of America on April 6th, the Anniversary of the Declaration of War, and, among other schemes for the physical, intellectual, and spiritual betterment of the young, it will be signalised by a highly scientific endeavour to reduce infantile mortality. It is estimated that at least 100,000 infant lives will be saved in the U.S.A. alone during "Children's Year."

81.

THE
BRITISH JOURNAL
OF
CHILDREN'S DISEASES.

VOL. XV. APRIL—JUNE, 1918. Nos. 172–174.

Original Articles.

SOME CASES OF URINARY DISEASE IN CHILDREN.

By RALPH THOMPSON, Ch.M., F.R.C.S.,
Surgeon-in-Charge of the Genito-Urinary Department, Guy's Hospital; Surgeon to the Victoria Hospital for Children; formerly Hunterian Professor, Royal College of Surgeons.

WHEN an attempt is made to write something about the diseases of the urinary apparatus in children, the question naturally is put for consideration as to whether there are any diseases of this tract peculiar, or nearly peculiar, to children. Are there any diseases such as, for example, the acute infectious fevers or rheumatism, or tuberculous meningitis, which are more common in children than in adults, and which are amenable to, or commonly treated by, recognised surgical methods?

The answer to this question is as difficult as the answer to the more general question as to whether or not there are any diseases peculiar to children. Incontinence of urine of a functional nature, although perhaps not common in children, is yet not infrequently found in adults. Traumatic stricture of the urethra, although not very common in adults, can hardly be considered as peculiar to children, as older people might acquire exactly the same condition had they the time, the inclination, or the power to play the same gymnastic pranks.

Certain conditions, some of which have already been mentioned, do appear to occur more commonly in children than in older people.

Congenital defects, which are not incompatible with life, may be found in older people, and therefore can hardly be considered under the heading of children's diseases. It is, in fact, in their prognosis and treatment that diseases in the urinary tract of children, as elsewhere, differ from otherwise similar conditions of adults.

Urinary disease, of such a nature as to demand surgical attention, is not so common in children, although it may be of the same type as in adults. The comparative rarity of such disease in children calls for some explanation, which may be supplied by the fact that very many obstructive conditions which are present in the adult are absent in the child.

No one can doubt that stricture of the urethra, enlarged prostate, pregnancy, and pelvic tumour may be responsible for many of the cases of urinary disease by producing obstruction to the flow of urine, and subsequent, possibly consequent, infection of the urinary passages. Now, these cases are absent in the young child, with the exception of stricture of the urethra, which is not uncommon in the form of traumatic stricture, and unfortunately this condition may not give rise to serious complications until the patient has attained riper years than those of a child, for as long as the bladder muscle is responding to the increased work thrown upon it by the efforts which must be made to overcome the obstruction to the passage of urine along the narrowed urethra, so long will symptoms of disease be in abeyance. It is only when the bladder muscle has failed, or is failing, that symptoms of urinary disease will manifest themselves.

Tuberculous Peritonitis as a Cause of Urinary Disease.

There is, however, an obstructive condition which may be present in children and which may produce serious symptoms, necessitating the interference of the surgeon. This condition is not uncommon and has hardly received the attention it deserves. Tuberculous peritonitis and abdominal adenitis may lead to constriction of the ureter, and symptoms of renal colic may develop in consequence.

A young child of either sex is brought by its parents with a history of severe radiating pain in one loin and occasional hæmaturia. X rays may reveal a shadow in the region of the upper urinary tract, which suggests the possibility of stone. An exploratory incision is made and no stone found. In such cases very careful examination of the ureter should be performed, and not infrequently it will be found that there are peritoneal bands binding the ureter down to the posterior abdominal wall, or even kinking it, or there may be a small mass of tuberculous glands pressing upon the ureter and leading to obstruction to the flow of urine along this tube. Twice have I cut down upon such a condition. In support of these personal, clinical, and operative observations a perusal of post-mortem records at Guy's Hospital reveals that, during twenty years, there were about twenty cases of tuberculous peritonitis in which the reports state that there was some evidence of obstructive conditions in the ureter, as, for example, a small hydronephrosis of the pelvis of the affected kidney. It is not stated that such occurrences were associated with marked renal conditions, but they afford confirmatory evidence of the previous operative experience recorded above. Tuberculous peritonitis or adenitis may, therefore, be regarded as a possible obstructive condition giving rise to symptoms of urinary disease. Cystoscopy, the passage of a ureteric catheter, and the injection of some opaque material into the pelvis of the kidney, with examination by means of X rays, should enable a diagnosis to be made between a calculus situated within the upper urinary tract and calcified tuberculous glands producing pressure upon the ureter from without. Another condition, purely anatomical, may, when symptoms of renal colic are present, lead to a mistaken diagnosis when X rays are used as an adjunct to the elucidation of the case. The epiphyses of the transverse processes of the lumbar vertebræ may not appear either at the same time or symmetrically, and if there be only one present, perhaps in the third or fourth lumbar vertebra, and there be symptoms of renal colic, unless an opaque catheter be passed so as to identify the position of the ureter relative to the shadow cast by the epiphysis of the transverse process, a wrong diagnosis may be made. Care, however, must be taken not to insist that wrong treatment has been employed in such cases when an operation designed to remove the supposed stone is undertaken. Such treatment, although in the present state of our knowledge it may be empirical, is sometimes followed by most happy results, possibly by fixation of a movable kidney, following upon the operation, possibly by the mental effect produced upon the little patient by the operation, and by the reliance which a child who is in pain will place in anyone who is trying to do his best for him sympathetically.

PYONEPHROSIS.

This condition occurs in children, and follows upon, or rather, is associated with, the presence of renal calculi, or it may occur consequent upon the presence of aberrant vessels, or some definite fibrous tissue formation leading to kinking of the ureter; but before selected cases are offered in illustration of this type of case, the question will very naturally be raised as to the reason of aberrant vessels failing to cause symptoms of urinary obstruction until the years of infancy and childhood are passed. The answer depends upon a correct knowledge of the topographical anatomy of the kidney at all ages. If a full-term fœtus be examined, it will be found that the lower poles of both kidneys lie on the same plane as the umbilicus and only about 2 cm. above the plane of the anterior superior spine, which bony landmarks, owing to the obliquity of the pelvis not being so pronounced in the fœtus or young child, are situated relatively higher in such subjects than in older people. The kidneys therefore lie at a lower level in young subjects than in older persons. As age advances the kidneys rise higher and higher in the abdominal cavity until they reach their normal position—in close relation to the last rib.

If now we turn our attention to the liver of the full-term fœtus we shall find that it appears to occupy much more space in the abdomen of the fœtus than in that of the adult. This appearance, however, is very deceptive, for if the liver be carefully excised we shall find that its shape is very similar to that of the adult. The fact is, that although the liver may appear much larger in young subjects than in adults, relative to the body cavity, the true criterion of its size is not to be found in its appearance when the abdomen is opened, but in its relative weight to that of the whole body, which is probably increased. As age advances, the liver rotates to the right upon an antero-posterior axis and backwards upon a transverse axis, so that more of the liver comes to lie upon the right side of the middle line and upon the posterior surface of the abdominal wall. Obviously therefore as this double rotation takes place, the right kidney will be prevented from moving as far up as the left kidney.

When aberrant vessels are present, as the kidney is ascending there can be no tendency for the ureter to become kinked over the aberrant vessels, and it is only when the kidney has reached its normal position, and then been dislocated or has become movable, that the ureter becomes kinked over the aberrant vessels.

If these anatomical facts and logical deductions be kept in mind, it will not be surprising that only one illustrative case of pyonephrosis due to aberrant blood-vessels is to be recorded in this paper.

Case of pyonephrosis due to aberrant blood-vessels.—Alice S—, aged 13 years, admitted into Martha Ward, Guy's Hospital, under the care of Sir W. A. Lane. She was transferred to my care by that surgeon; to him I desire to offer my cordial thanks. For about a year previous to her admission to Guy's Hospital on August the 15th, 1917, the patient had experienced pain in her right side. This pain was so severe as to compel her mother to seek advice. She went to two hospitals, but only obtained temporary relief. Finally, she was admitted into Guy's Hospital. On admission, she complained of pain in the right iliac fossa, which extended behind over the right iliac crest in the lumbar region. She stated that the pain was worse in the evening. She slept well, but had the pain when she woke up in the morning. There was no difficulty in micturition, and the bowels acted regularly. Pulse, 104; temperature, 99° F.; respirations, 24. Urine had a specific gravity of 1010, reaction neutral, and there was a slight deposit of phosphates and mucus. On microscopical examination a few red blood corpuscles could be seen. There was occasionally a trace of albumin. No casts could be detected. The patient was X-rayed, and it was thought that there was a stone in the left kidney, but this opinion was not maintained after a second X-ray examination had been made. The right kidney was palpable, but not markedly so. The urea in the blood was found to be of normal percentage. On account of the abnormal urine, the pain in the right side, and the fact that the right kidney was palpable—all points in favour of some lesion in connection with the right kidney—it was decided to cut down upon this organ. The ordinary lumbar incision was made, and after the usual preliminary dissection the kidney was easily brought into the wound. The pelvis was very markedly dilated, and the dilatation was cut off sharply below from the normal ureter. At the site of division between the dilated pelvis and the normal ureter a leash of aberrant blood-vessels was found. These were divided between ligatures. The pelvis was incised, and about half an ounce of purulent fluid escaped. The kidney was replaced, a catheter was used to explore the ureter with negative results, and a gauze drain was inserted as far as the wound in the renal pelvis. Recovery ensued without complications, and the patient was discharged on September the 24th, 1917, perfectly well and having lost her pain.

It is clear that such a condition as that of aberrant blood-vessels should be treated by surgical methods, when it is suspected, as much, and, possibly, irremediable damage may be done to the affected kidney during the stage of waiting for symptoms to subside. The above case is a good illustration of this important rule, as pyonephrosis had already developed.

Two further cases occurring, however, in older people may be cited as evidence in favour of surgical intervention as soon as possible. The first was a well-built and actively disposed girl, who was aged 17 years, at the time of operation, but who had had severe attacks of right renal colic and hæmaturia for some years. No stone had been discovered by means of X rays. Collargol injection of the right ureter and pelvis of kidney revealed a small hydronephrosis. As a calculus was not found by X rays, and as there was no evidence of any inflammatory condition of the kidney, the presence of aberrant vessels was suspected, and an exploratory operation performed. Aberrant blood-vessels were found constricting one division of a double ureter coming from the lower pole of the kidney. These were divided between ligatures, and the patient completely lost her pain and hæmaturia.

The second case is as follows: A youth, aged 22 years, who had been laid up for years with right-sided pain and hæmaturia, was found to have a well-marked hydronephrosis and aberrant blood-vessels. The kidney substance was much atrophied, and undoubtedly delay in operating had led to permanent damage to the kidney. The first case shows that aberrant blood-vessels may cause serious symptoms at an important time in the child's life, and it may be repeated that such a condition should be treated by surgical means.

Pyonephrosis may also be due to the presence of calculi—and I have removed, from a lad aged 8 years, a large pyonephrotic kidney in the cavities of which were found mixed calculi.

A case may be quoted here in which fibrous adhesions which were not obviously due to tuberculous peritonitis had led to kinking of the ureter.

A boy, aged 8 years, was admitted under the care of my colleague, Dr. H. C. Cameron, who observed a large swelling in the right side of the abdomen, and asked me to see the case with him. There was slight pyuria and considerable pyrexia especially in the evening. The child was obviously ill. The patient was cystoscoped, and, although no pus was detected descending from the right ureter into the bladder, there were well-marked red ulcerated patches adjacent to the right ureteric orifice. The patient was transferred to my ward, and, with the concurrence of Dr. Cameron, an exploratory operation was performed. There was no difficulty in exposing and delivering the kidney through a lumbar incision. The organ was large and felt flaccid. It was turned forwards, and the pelvis of the kidney and upper parts of the ureter thoroughly exposed. The upper part of the ureter was kinked, and above the kink there was a much dilated pelvis which was deliberately incised for a distance of 1¼ in. on its posterior aspect. Pus escaped from the pelvis and two or three large cavities in the kidney substance itself. These cavities had smooth walls. The cause of the condition was not obvious until my dresser, Mr. R. Jones, pointed out a firm fibrous mass lying between the upper part of the right ureter, and the inferior pole of the right kidney. By placing the kidney back into its original position it was observed that the fibrous condition had led to kinking of the ureter. There were no aberrant vessels. The fibrous adhesions were carefully dissected away, the kidney stitched in position, and the boy made an uneventful and complete recovery. The cause of the fibrous adhesions remains obscure.

Renal calculi may occur at an early age. For the ultimate cause of their formation we may have to go back to very early life. In a large number of autopsies which have been made by my medical colleagues at Guy's Hospital an interesting fact becomes apparent. In the pelvis and kidney substance, but especially the former, uric acid, sand, concretions, or even very small calculi may be found after death from marasmus, or an acute infectious disease, with which considerable wasting has been associated. It is not unreasonable to assume that these concretions may be the origin of larger stones and the formation of definite calculi.

It is important to note that in children the symptoms of renal calculus may occur on that side which is not affected. Thus, in a boy, aged 10 years, under the care of my colleague, Dr. John Fawcett, definite left-sided pain was complained of, but X rays, confirmed by an operation, showed one calculus in the pelvis of the right kidney and two or three in the substance of the organ.

VESICAL CALCULI.

We may now briefly consider the symptoms and treatment of stone in the bladder of young children. In one case under the care of Mr. L. A. Dunn, at Shadwell Children's Hospital, the course of the stone along the whole urinary tract could be demonstrated by the symptoms. There was renal pain and hæmaturia, renal colic and hæmaturia, cessation of renal pain, evidence of bladder irritation such as frequency of micturition, finally, overflow incontinence, and the presence of an impacted calculus in the terminal portion of the urethra. But such a train of clinical symptoms is uncommon. There is rarely evidence of formation of stone in the kidney or of its passage along the ureter into the bladder. Impaction of a stone in the urethra is not of as common occurrence as the presence of a vesical stone. Frequency and incontinence are, in my experience, the most frequent classical symptoms of vesical calculus. The occurrence of an "adenoid" type of face is too frequent to be accidental, but, although the removal of the adenoids may remove a common cause of disease, it will hardly effect a cure of the stone condition. All suspected cases of vesical calculus should be X-rayed, but complete reliance cannot be placed upon this method of diagnosis, as I have known at least one case in a young child in which a negative report was received. In this case sounding the bladder, followed by suprapubic lithotomy, demonstrated the existence of a stone 1 in. long by ½ in. thick.

The important question which must now be considered concerns the treatment. Shall a suprapubic lithotomy be performed or a lithotrity?

If a suprapubic lithotomy is proposed, it is all important that a cystoscopy should be performed in order that as an accurate a diagnosis as possible should be made before the operation. By accurate diagnosis, with the aid of the cystoscope, is meant localisation of the stone, knowledge as regards the size and appearance of the stone, and, above all, the condition of the bladder itself. The difference in anatomical relation of the bladder in children from that of adults, and the difference in thickness of the wall of an infant's bladder from that of an adult's bladder do not prelude a lithotrity, but an incomplete preliminary examination of the bladder by means of a cystoscope may fail to show us that there are sacculi at the base of the bladder, and that there are oxalate calculi present in the bladder, which may or may not be situated in the sacculi. Oxalate calculi are hard, and when broken by means of the lithotrite the fragments may "fly" and impinge with great force against the walls of the sacculi, which, it will be remembered, are very thin and formed only of mucosa and peritoneum, and damage may be done to the peritoneum of a most disastrous nature. Needless to say, a lithotrity would not be attempted in those cases in which the stone lay actually in a sacculus. A case of such a type has occurred in my experience, and in a young patient, and the rule should be made that never must a lithotrity be undertaken without a preliminary cystoscopy. Why should we operate in the dark when the illuminating rays of a cystoscopic lamp will guide us to the right line of treatment?

In my experience the prognosis of stone in the bladder of young children is not good. The stones are apparently septic in origin, at any rate, in some cases; the bladder is septic at the time of operation; there is an open wound left which may easily become infected even if every case against external contamination is taken; small wonder, then, that there may be a recurrence of the stone again and again, with eventual ascending nephritis. A case may be quoted as an illustration of this general statement. It is the only one which has fallen to my lot, but since its occurrence I have come to regard vesical calculus occurring in a child, especially a young child, as a very serious condition.

The following notes refer to George M—, aged 4½ years: The patient suffered from adenoids and was a mouth-breather. Apparently fairly well nourished. Adenoids were scraped on February the 16th, 1914. He also had frequency of micturition and incontinence at nights. A stone was discovered by means of X rays lying in the bladder. On February the 24th lithotrity was attempted, but abandoned, as the stone was very large. A suprapubic lithotomy was at once performed, and a stone measuring 1½ in. long by 1 in. broad and ¾ in. thick was removed. Examination revealed a mixed calculus, consisting chiefly of compact uric acid; it was not obviously laminated. The bladder wound was left open and drained. It healed up in about three weeks' time, and the patient was discharged very much better in appearance without frequent micturition and nocturnal incontinence. He did not continue to attend Guy's Hospital, but on July the 10th, 1914, he was readmitted. The mother said that since his discharge he had suffered from incontinence of urine and fæces. Suprapubic cystotomy was again performed, and a large stone removed. The bladder wall was covered with putty-like material, which felt gritty. This was removed by irrigation. The wound was not sewn up and healed in the ordinary way. He was readmitted on December the 16th, 1914, with evidence of double pyelonephritis, and death occurred about Christmas, 1914. Double pyelonephritis, ureteritis, and cystitis were found at the autopsy, but no vesical calculus. There was no evidence of any other disease, such as tubercle.

TRAUMATIC STRICTURE OF THE URETHRA.

This condition is not uncommon in children following upon injuries to the perineal region, and also in association with fractured pelvis. If a ruptured urethra is associated with a fractured pelvis it must be remembered that the fracture is, strictly speaking, compound, and every aseptic precaution should be taken in catheterising the urethra.

There is not space to discuss the vexed question of immediate suture of the urethra when it has been ruptured by an accident; we are merely concerned here with the symptoms and treatment of traumatic stricture following upon injury to the urethra. The medical man in attendance upon the case must not be misled by the good stream with which the patient passes his water. As has already been stated in this paper, it is not until the bladder muscle is failing, or has failed, that difficulties in micturition become manifest. It not infrequently happens that a patient has a perfectly good stream during micturition, and it is quite impossible to introduce the smallest bougie or catheter through the stricture. These children and young people with traumatic stricture are not good lives. The average age of death from complications of traumatic stricture, from a necessarily small number of cases, is forty-four, but for long before death such lives are rendered quite useless by abortive attempts at cure by the passage of catheters, the production of false passages—the introduction of sepsis into the lymphatics of the urinary system, and other amenities of that life which is dignified with the epithet "catheter."

Excision of the strictured area is the form of treatment for all these cases. In many cases the stricture is merely a fibrous diaphragm in the middle of the spongy portion of the penis, as a rule not more than four inches from the *meatus urinarius.* This can be easily excised by exposing the urethra, making a longitudinal incision in the urethra, exposing the stricture, identifying its boundaries, and cutting through the urethra behind and in front of the stricture and then suturing the divided ends of the urethra—putting a moderately large catheter into the bladder through the urethra—sewing up the superficial wound, and applying an anchor dressing. An important point is to be noticed. The punctured urethra should be buried in the penis as deeply as possible. An efficient way of insuring this is to put Lembert sutures in the tissues of the penis, superficial to the urethra, and tying them securely so that a broad area of superficial tissue is in contact on each side of the wound. One cause of failure of some of these wounds to unite is to be found in a want of appreciation of this point, with the result that the urethra is lying near the surface, and is therefore liable to sepsis occurring during the after-treatment. In none of my cases have I failed to obtain complete union, and I believe this happy result to be due to my always burying the urethra as deeply as possible in the penis.

When a catheter is tied into a child's bladder through the penis, irrigation of the bladder at least once a day is very necessary.

Summary.

(1) Cases of urinary disease in children are not so common as in adults, owing, perhaps, to the want of obstructive causes, such as enlarged prostate or pregnancy.

(2) Obstructive lesions, however, may occur following upon tuberculous peritonitis and adenitis.

(3) Pyonephrosis may occur due to aberrant blood-vessels, renal calculi, or fibrous adhesions kinking the ureter.

(4) Vesical calculus in children has a bad prognosis; a lithotrity should always be preceded by a cystoscopy.

(5) Traumatic stricture of the urethra has a bad outlook, and, if possible, should be excised and buried deeply.

ERYTHEMA NODOSUM ASSOCIATED WITH TUBERCULOSIS.

By E. Bronson, A.B., M.D.

The following case is not published with the assumption that erythema nodosum is a tuberculous condition, but simply to put on record an instance in which a tuberculous pleural effusion supervened in a typical example of this eruption.

Case history.—A boy, aged 9 years, was admitted to the Paddington Green Children's Hospital, under Dr. G. A. Sutherland, on April the 7th, 1917, for pains in the abdomen.

Family history.—Negative for rheumatism, chorea, and tuberculosis.

Past history.—Breast fed as an infant. Whooping cough and bronchitis at three years, and measles at four years. Usually healthy. No rheumatic history and no sore throats.

Present illness.—Ten days before admission he came home from school with pain in the abdomen. He was sick that night and again the next morning. Since the onset he has had sharp pains lasting a minute in the pit of the stomach three to four times daily. The bowels have been regular. He has appeared tired out, though not ill enough to stay in bed. Six days ago he complained of pain in the left leg, and his mother noticed an isolated, red, tender spot on the left shin. He has been cold to touch, rather than hot, though perspiring at night. He has had no further sickness, no sore throat, and no cough.

Condition on admission.—A rather under-nourished, ill-looking child, with sallow complexion, sunken eyes, walking into the hospital and complaining of pain in the abdomen and left leg.

Skin.—Dry, cool, and rather rough. About midway on the left tibia is a reddish, tender nodule 2 × 3 cm. in diameter, with definite local temperature. No corresponding nodule on the right shin, but just above the right knee are two slightly raised reddish papules 1 × $1\frac{1}{2}$ cm. in diameter. No similar spots on the arms or body.

Joints.—No swelling nor tenderness in any joints.

Glands.—No enlargement, not even in the left inguinal.

Abdomen.—Soft. No resistance to palpation. The liver is fully 4 cm. below costal margin in nipple line. No tenderness.

Digestive system.—Tongue slightly coated. Several carious teeth. Tonsils and pharynx a little congested only.

Respiratory system.—Nothing abnormal found. Free expansion.

Circulatory system.—Apex beat felt 2 cm. outside the nipple line. Slight pulsation to right of sternum. Heart-sounds are weak and distant, and a systolic murmur heard best over præcordium is present. Pulse 100, soft, low tension in type.

Urine.—Neutral, no albumin, trace of acetone, microscopical examination negative.

Progress.—April the 8th: Many nodules, typical of erythema nodosum on legs and thighs to-day.

Von Pirquet very positive in twenty-four hours.

April the 9th: General condition much better. No abdominal pain since admission. Large nodule on left shin is disappearing. Numerous smaller but similar nodules over legs and few on thighs. None elsewhere. The apex beat is now inside nipple line, and the sounds are stronger. A systolic murmur, not transmitted to the axilla, is still present. The liver is 2 cm. below the costal margin. Afternoon temperature, about 100° F.; morning, normal or subnormal.

April the 14th: Feels well. Slight afternoon temperature. The nodules and papules have not entirely disappeared.

April the 15th: A large nodule has appeared on the right shin. Patient says he has no pain, and seems happy. The pulse-stays rather rapid, 100 to 120.

April the 18th: Yesterday many nodules, or rather papules, appeared on both legs. None of these are over 2 cm. in diameter, and none tender. Patient still looks ill, but plays in bed, and is happy. Temperature remains nearly normal.

April the 23rd: A fresh crop of nodules, this time on the extensor surfaces of arms. Afternoon temperature, 101° F. for two days. Heart as before. There is nothing to point to rheumatic infection of the heart.

April the 26th: The afternoon temperature has been high for several days, 102°·8 F. last night, 100° F. this morning. Pulse 130. Patient sits up and makes no complaint. Chest examined last night. Cardiac dulness slightly to right of sternum. No dyspnœa. Percussion note flat, and breath-sounds much diminished over left lower back, axilla, and front. To-day flatness to the level of the fifth dorsal vertebra in back. Marked tubular quality of breath-sounds and fine crepitations at left apex. Heart dulness 2 cm. to right of sternum, and definite dyspnœa. There is a fresh crop of nodules to-day.

Thoracentesis.—15 oz. of clear, light yellow fluid removed, which gave a cloudy coagulum, and showed abundant proteids. No organisms demonstrated. Differential cell-count. Lymphocytes 82 per cent., polymorphonuclears 10 per cent., endothelial cells 1 per cent., unclassified 8 per cent.

April the 29th: No fresh nodules, and old ones are disappearing. Patient feels well, and is active in bed. No subjective respiratory distress. Respirations 80, however, and pulse stays rapid. Heart dulness 2 cm. to right of sternum. Flat note over left chest as before thoracentesis. Irregularly swinging temperature between 99° and 103° F., highest at 5 p.m.

Blood examination.—Hæmoglobin, 100 per cent.; red cells, 4,200,000; leucocytes, 8500. Differential count: Polymorphonuclears, 58 per cent.; small mononuclears, 22 per cent.; large mononuclears, 20 per cent.

May the 1st: Patient breathes more rapidly, but makes no complaint; in fact, says he feels well. On examination of his chest the flat note has extended nearly to the lung apex on the left, and cardiac dulness is 3–4 cm. to the right of the sternum, with epigastric, substernal, and right-sided pulsation, and no cardiac impulse is felt to the left of the sternum. Breath-sounds are tubular over and above the præcordial area. Temperature is still swinging. No more nodules.

May the 4th: Condition the same, with temperature from 99° to 102° F.

May the 7th : The von Pirquet test was repeated and is positive in twenty-four hours, though no extreme reaction now. The temperature is lower and more irregular—not the regular afternoon rise. The chest remains about the same as on May the 1st.

May the 10th : Patient shows rather more dyspnœa and fluid is certainly not decreasing. Pulse 142, and respirations 42. The chest has not been retapped in order to see if absorption would not take place spontaneously.

Thoracentesis.—To-day because of subjective discomfort, 13 oz. were withdrawn. Patient vomited once afterwards, but obviously felt relief.

There has been noticeable wasting and increasing pallor. The liver is still well below the costal margin. After tapping, the right-sided cardiac dulness is at the right costal margin. Some substernal heaving and marked epigastric pulsation persist.

May the 12th : Little, if any, increase in fluid, and the temperature is coming down. The percussion-note is flat to the angle of the scapula, and dull above that level.

May the 17th : Patient seems definitely improved. Breath-sounds are heard now over the entire left lung, though accompanied nearly everywhere by fine crepitations on deep inspiration. No friction rub heard. The percussion-note is impaired over the left upper back and is still flat over the lower back and axilla. Cardiac pulsation is strongest in the epigastrium and under the sternum. The first sound is weak and no distinct apex beat can be felt.

May the 20th : Liver remains about 4 cm. below the costal margin. Cardiac apex beat is demonstrable to-day 1 cm. inside nipple line. There is still epigastric and substernal pulsation, but none to right of the sternum. The percussion-note remains impaired and breath-sounds are diminished over most of the left lung, but nowhere is there a flat note, and the crepitations are disappearing.

May the 23rd : Patient is very thin, but is improving in general condition steadily. The temperature continues to range between 99° and 100° F. Impairment of left lung persists, but there is no flat note. Tubular breath-sounds and crepitations have disappeared. Sent to convalescent home.

February the 8th, 1918 (nine months later) : A pale, seedy-looking child. Under-nourished. Skin a little clammy. He goes to school, but is always tired, sits about, and will not play. As when in the ward he is optimistic about himself and will make no complaint. He has been followed in the out-patient department, but does not improve.

Abdomen.—Scaphoid and soft. No masses felt. Liver about 2 cm. below costal margin.

Heart.—Pulse 92, soft and low tension in type. Apex beat in the nipple line. There is some fluttering præcordial pulsation. First sound not strong and second rather exaggerated at the apex. A soft systolic murmur not transmitted to the axilla, is still present. This is best heard at the apex and over the præcordium. There is no epigastric nor substernal pulsation.

Lungs.—No marked submanubrial dulness. Voice-sounds are heard with tubular quality along the spine to the sixth dorsal vertebra (D'Espine's sign). The breath-sounds to the right of the spine are also very tubular, and there is less striking, but definite tubular prolongation of expiration at the right apex with a few crepitations at the end of inspiration.

Definite impairment at the left base and diminution in breath-sounds. No tubular quality and no crepitations. A few rough bronchial sounds on both sides of the sternum.

Diagnosis.—Thickened pleura on left, bronchial glands, probably tuberculous. The right apical signs often present with bronchial glands make one hesitate to diagnose an apical tuberculosis.

Discussion.—The type of pleural effusion, the afternoon rise in temperature, and the condition of the chest nine months later leave little doubt that the child had a tuberculous pleurisy, and now has at least tuberculosis of the bronchial glands. It may be freely admitted that there is here no proof of any ætiological relation between the erythema nodosum and the tuberculosis. Various affections have followed or been associated with typical cases of erythema nodosum. For example, Sir Thomas Barlow described an instance of acute thyroiditis; Brien, a case of gonorrhœa; Janson gave a summary of the published cases associated with secondary lues; Orillard and Sabourand reported a patient with streptococcal septicæmia, complicated by this condition; Joynt found 9 cases in 300 of measles, and so one might continue.

Bacteriological studies have been equally inconsistent. Sheffield Neave (1912) found a streptococcus in the blood in his patient, a child aged 4 years, suffering from acute rheumatic fever and carditis, as well as pleural effusion. Obviously, the demonstration of a streptococcus in the blood of such a patient, would be no proof that the organism had any relation to the erythema nodosum. Rosenow (1915) isolated a Gram-positive diphtheroid bacillus from the nodules, blood, and in some instances from the throats of typical cases. He even produced in guinea-pigs by injections of cultures of his organism, nodules which he considered identical with those in human beings.

No large number of inoculations of nodule substance into guinea-pigs have been made, and most of those attempted have been unsatisfactory in that the animals died before lesions like tuberculosis could have had time to develop.

In Great Britain the rheumatic interpretation of erythema nodosum seems still the most prevalent. By reading the notes of a series of cases like Stephen Mackenzie's, I am not convinced that the sore throat and joint pains were signs of rheumatic fever, nor that there was carditis present. Histories, for instance, of cases of infection with the influenza bacillus, would as often mention sore throat, pains in the joints, and very much the same cardiac signs. In the past two years I have seen fifteen cases of erythema nodosum, in none of which were there any signs of acute rheumatism or carditis, and none had any history of previous attacks of rheumatism. Not infrequently there was present some cardiac dilatation accompanied by a soft systolic murmur at the apex, both of which disappeared during convalescence.

In 1905 Lendon, under the title "Nodal Fever," published 63 cases of erythema nodosum. He believed that he was dealing with a definite clinical entity of mildly infectious type. He emphasised the prodromal, eruptive, and convalescent stages of the disease. It is of interest that, though there were prodromal symptoms, such as sore throat and malaise, in the majority of cases, phlyctenular conjunctivitis was the only prodromal sign, which he regarded as pathognomonic. "Pseudo-rheumatism" was present in 16 of 44 private cases during the eruptive period. Subsequent rheumatism was present only once, and then in an elderly individual. Lendon also inquired into the tuberculous history because he thought that it would be as easy to prove the condition tuberculosis as rheumatism. Of 16 families in which one or more instances of erythema nodosum had occurred, tuberculosis was present in 5, and, strangely, as he remarked, the only two deaths in his series up to the time of publication had been from pulmonary tuberculosis. Lendon found four instances of a second attack in the same individual. Though he was unable to convey the disease from an ill to a healthy person, he records the development of the condition in several individuals who had accidental contact with a previous case.

Crosse, in 1908, quoting Comby, expresses very much the same view as Lendon, viz. that erythema nodosum is a specific infectious disease, an eruptive fever, analogous to the eruptive fevers of childhood.

Gosse, in an analysis of 100 cases at St. Mary's Hospital, London, found no association between rheumatism and erythema nodosum. The incidence of a rheumatic history was about the same as had been reported for London children over seven years of age. He found that the seasonal and sex variations also differed from those of rheumatism. No fibrous nodules were noted in any of these cases. In no instance did the pyrexia yield to salicylates, though pushed sometimes beyond the physiological limit. He, too, regarded the painful joints, myocarditis (?), anæmia, and tonsillitis as a part of a specific symptom-complex. He also stated : "There is no need to consider the proposed relation between erythema nodosum and tuberculosis, the evidence is based upon the von Pirquet test, and is, therefore, of little value. Moreover, in this series of seventy-five (hospital) cases, the lungs were stated to be normal in every case but one."

As early as 1876 Uffelmann described instances of the clinical association of erythema nodosum with tuberculosis.

In 1902 Poncet showed, at the Académie de Médecine, Paris, a case of erythema nodosum which he considered of tuberculous origin. Three years later his views were elaborated by Pons, with the report of the presence of giant cells in sections of a nodule, and also the development of typical nodules in an individual after a diagnostic dose of tuberculin.

Hildebrandt produced generalised tuberculosis in a guinea-pig by injecting blood from a patient suffering from erythema nodosum. As this patient, however, was suffering from chronic tuberculosis, one cannot consider this result of value. There is not the same objection to a similar result by Brien. He injected blood from a clinically non-tuberculous patient into three guinea-pigs, and all developed tuberculosis.

In 1907 Landouzy published an instance of tuberculous septicæmia complicated by erythema nodosum, and in 1913 a case of the latter, associated with joint pains and clinical endocarditis. Sections of a nodule from the second case were made, and also a portion injected into a guinea-pig. In one section in the lumen of a vessel was found a single acid-fast bacillus of typical morphology, and the guinea-pig developed a tuberculous nodule at the seat of inoculation, with tubercles in the lungs and liver. Landouzy concluded that erythema nodosum may be the result of a septicæmia with the tubercle bacillus, yet he does not contend that tuberculosis is the only cause. He compares this condition with idiopathic pleurisy, which is usually, though not universally, of tuberculous origin.

Meare and Goodridge reported recurring erythema nodosum and a swinging temperature in a patient without demonstrable tuberculosis at the first examination, but who died three weeks later of a fairly generalised tuberculosis.

Symes, in twenty cases of erythema nodosum, found definite clinical evidence of tuberculosis in six. In the microscopical examination of a nodule from one of his cases, Carey Coombs found typical giant cells; in another, the picture was that of rheumatism with endocarditis, but at post-mortem examination the condition was found to be tuberculosis. Symes, however, did not favour the theory of exclusive tuberculous origin, but rather, with Lendon, considered it "a distinct clinical entity, a specific, infective fever"; but under the same name, he thought, had been included other rashes—some rheumatic, some erythema multiforme, some tuberculous.

Whyte, in reporting a case with a *freely movable* nodule above one elbow, which he regarded as a true rheumatic, fibrous nodule developing in erythema nodosum, incidentally mentions a severe phlyctenular conjunctivitis, and a swinging temperature which did not yield to salicylates.

Moore, in a letter to the 'Lancet' on "Tuberculosis in Dublin," quite incidentally mentions the presence of tubercle bacilli in the sputum of a young man admitted for erythema nodosum.

A considerable number of French writers have recorded series of cases of the association of the two conditions. Some of these statistics need to be studied critically in regard to the grounds on which a diagnosis of tuberculosis was made. Occasionally slight impairment of the percussion-note and prolonged expiration at the right apex have been the only basis for the diagnosis, except the positive tuberculin test.

The reaction to tuberculin in erythema nodosum has caused considerable controversy. In the literature are found all degrees of belief in its value, from Gosse's disregard of it, as quoted above, to Poncet's assurance that he produced an attack of erythema nodosum by one diagnostic injection. In France the intradermal method of Mantoux is most frequently used, while in England and Germany the von Pirquet cutaneous test is usual. However applied, there is general agreement that the tuberculin test is nearly always positive, and often violently so. Pollak, in 1912, obtained 100 per cent. positive reactions in 48 cases, 58·3 per cent. of whom were under six years of age. Moro, by his method, had 4 negative cases out of 30. There can be no doubt that in children, on whom in many hospitals a routine von Pirquet test is done, the marked reaction in practically all cases of erythema nodosum is in striking contrast to the many negative reactions which one obtains, even over six years of age, in other diseases. The von Pirquet test in the present case was repeated, with a positive result after the nodules had disappeared. I have found this true in the only four instances of apparently non-tuberculous children, in whom I have had opportunity to repeat the test after complete recovery from erythema nodosum. These four cases, however, were all over seven years of age.

In 1909 rather a heated controversy on the intradermal tuberculin reaction took place in France. Chauffard and Troisier produced nodules which they considered identical with erythema nodosum by this method. Their results were confirmed by Laignel-Lavastine. Soon afterwards, Thibierge and Gastinel produced lesions resembling those of erythema multiforme by the intradermal injection of tuberculin in that condition. They obtained somewhat similar results by the injection of diphtheria and tetanus antitoxins and saline solution. The lesion resulting even represented the same stage as the eruption showed elsewhere on the body. In erythema nodosum they confirmed Chauffard's and Troisier's findings in regard to tuberculin, but added that similar nodules, though less indurated, could be produced by diphtheria and tetanus antitoxins. They concluded that in erythematous dermatoses an intradermal injection of tuberculin, and, to a less extent, of diphtheria and tetanus antitoxin, and even of normal saline, tended to reproduce the type of erythema then present. Barbier and Lian confirmed the results of Chauffard and Troisier in cases of erythema multiforme, but found that only tuberculin produced the nodule in erythema nodosum.

In a case of erythema nodosum, under Dr. G. A. Sutherland, in 1912, a most violent local reaction followed the von Pirquet cutaneous test, but there was no reaction whatsoever to streptococcal and staphylococcal vaccines, applied by a similar method.

SUMMARY.

A case of acute pleural effusion in a boy, aged 9 years, suffering from erythema nodosum, is recorded. The occurence of erythema nodosum as a clinical entity, and its association with various diseases, especially tuberculosis, are discussed, with a *résumé* of the work on the significance of the tuberculin test in this condition.

Conclusions.

(1) The supposed relationship of erythema nodosum to acute rheumatism lacks clinical support. The joint pains which are frequently present in erythema nodosum do not respond to anti-rheumatic treatment, and the joints bear no resemblance to those in rheumatic fever. Carditis does not form a part of the erythema nodosum picture.

(2) That erythema nodosum may be a specific disease of a mildly infectious type, is supported by a fairly well-defined prodromal stage, often with sore throat, an eruptive stage, and a slow convalescent period. Against the specific fever theory is the fact that the cases are usually isolated, and only rarely has a contact developed the disease.

(3) Since erythema nodosum occurs in a variety of conditions, the possibility that it is a non-specific cutaneous manifestation of general toxæmia must be considered. To disprove this supposition is the fact that in the majority of cases no other illness is detected.

(4) In favour of the tuberculous ætiology is the strong reaction to tuberculin, and the clinical association of the two conditions. Against it, is the comparative rarity of such association in hospital practice.

(5) The ætiology of erythema nodosum has not yet been established.

I wish to thank Dr. G. A. Sutherland for the kind permission to publish my notes on this case.

References.

Barbier et Lian.—" Erythème noueux et intra-dermo-réaction à la tuberculine," 'Bull. et Mém. Soc. Méd. Hôp. de Paris,' 1909, xxvii, p. 837.

Barlow, Sir Thomas.—" Acute Thyroiditis in Erythema Nodosum," 'Clin. Soc. Trans.,' 1888, xxi, p. 67.

Brian.—" Untersuchungen über die Ætiologie des Erythema nodosum," 'Deutsch. Arch. f. klin. Med.,' 1911, civ, p. 272.

Chauffard et Troisier.—" Erythème noueux expérimental par injection intradermique de tuberculine," 'Bull. et Mém. Soc. Méd. Hôp. de Paris,' 1909, xxvii, p. 7.

Crosse (Bibliog.).—" Sur la Pathogénie de l'Erythème noueux," 'Thèses de Montpellier,' 1907–1908, No. 37.

Crozat (Bibliog.).—" Erythéme Noueux et Tuberculose," 'Thèses de Lyon,' 1913–1914, No. 104.

Gosse.—" Erythema Nodosum: An Analysis of a Hundred Cases," 'Practitioner,' 1913, xci, p. 240.

Hildebrandt.—" Zur Ætiologie des Erythema nodosum," 'Münch. med. Woch.,' 1907, liv, p. 310.

Janson.—" Über Erythema nodosum bei Lues secundaria," 'Dermat. Zeitsch.,' 1911, xviii, p. 1053.

Joynt.—" Erythema Nodosum following Measles," 'Brit. Med. Journ.,' 1911, i, p. 866.

Laignel-Lavastine.—" À propos de l'erythème noueux expérimental par intra-dermo-réaction à la tuberculine," 'Bull et Mém. Soc. Méd. Hôp. de Paris,' 1909, xxvii p. 77.

Landouzy et Læderich.—" Phtisie septicémique subaiguë, avec déterminations pulmonaires, pleurales, cutanées (érythème noueux), périostées, articulaires, endocardiaques, et péricardiques," 'Bull. de l'Acad. de Méd.,' 1908, lx, p. 112.

Landouzy.—" Erythèmes noueux, polymorphes bacillaires," 'Assoc. franç. pour l'Avanc. des Sciences, Reims' 1907, p. 337.

Idem, "Erythème noueux et septicémie à bacille de Koch," 'Presse Méd.,' 1913, xxi, p. 941.

Lendon, A. A. (Australia).—'Nodal Fever,' 1905. London: Baillière, Tindall & Cox.

Mackenzie, Stephen.—" On Erythema Nodosum, especially Dealing with its Connection with Rheumatism," 'Clin. Soc. Trans.,' 1886, xix, p. 215.

Mantoux.—" Intradermo-réaction de la tuberculine," 'Compt. Rend. de l'Acad. des Sci.,' 1908, cxlvii, pp. 355 and 503.

Marfan.—" Erythème noueux et tuberculose," 'Presse Méd.,' 1909, xvii, p. 457.

Meare and Goodridge.—" The Relation between Erythema Nodosum and Tuberculosis with Report of Case," 'Amer. Journ. Med. Sci.,' 1912, cxliii, p. 393.

Moore.—" Tuberculosis in Dublin" (letter), 'Lancet,' 1918, i, p. 617.

Moro (Heidelberg).—" Erythema nodosum und Tuberculose," 'Münch. med. Woch.,' 1913, lx, p. 1142.

Neave.—" Ætiology of Erythema Nodosum," 'Brit. Med. Journ.,' 1912, i, p. 891.

Orillard et Sabourand.—" Erythème noueux au cours d'une septicémie à streptocoques," 'Méd. moderne,' 1893, iv, p. 122.

Pollak.—" Erythema nodosum und Tuberculose," 'Wien. klin. Woch.,' 1912, xxv, p. 1223.

Poncet et Leriche.—'La Tuberculose inflammatoire,' Paris: Doin, 1912.

Idem, " La Tuberculose inflammatoire de la peau," 'Lyon Méd.,' 1912, cxviii, p. 217.

Pons, J.—" Erythème noueux d'origine tuberculeuse," 'Thèses de Lyon,' 1905–1906, No. 57.

Rosenow.—" Ætiology and Experimental Production of Erythema Nodosum," 'Journ. Infect. Dis.,' 1915, xvi, p. 367.

Symes.—" Erythema Nodosum and Tuberculosis" (report of series of cases), 'Brit. Med. Journ.,' 1914, i, 909.

Thibierge et Gastinel.—" Reproduction expérimentale de certaines dermatoses de la série des érythèmes par l'injection intradermique de tuberculine et de divers sérums," 'Bull. et Mém. Soc. Méd. Hôp. de Paris,' 1909, xxvii, p 757.

Uffelmann.—" Über die ominose Form des Erythema nodosum," 'Deutsh. Arch. f. klin. Med.,' 1876, xviii, p. 313.

Whyte.—" Erythema Nodosum" (case report), 'Practitioner,' 1915, xcv, p. 269.

Wing.—" Erythema Nodosum as a Post-partum Complication," 'Amer. Journ. Obst.,' 1916, lxxiii, p. 1120.

ON THE NATURE OF VON JAKSCH'S DISEASE.

By Gordon Ward, M.D.

Many names have been attached to the morbid process first described by von Jaksch, but of these only two are of immediate interest to us, viz. Pseudo-leukæmia infectiva and Splenic Anæmia of Infancy.

Amidst a sea of confusing literature these two terms stand out as the lighthouses to which writers who could find no other guidance look for deliverance. To some, one or other of these terms has proved an acceptable refuge, to others they have provided but brief solace, while to not a few they have seemed only to make the confusion worse.

The writer proposes to suggest a new term and a conception of the disease for which it is claimed that (1) it harmonises all the chief anomalies recorded from time to time, (2) provides a definite standard by which cases may be judged, and (3) explains the post-mortem findings and the blood-picture. As to ætiology, the writer has no suggestion beyond that implied by the term "infectiva," which he believes to be essentially correct. This paper is not founded on this or that case (indeed, war service prevents access to case records or literature), but on a general study of the literature of this and other blood diseases and on certain views to which this has given rise.

A Description of the Disease.

It will be well to collect first the symptoms, etc., which are generally admitted to be present in the average case of this disease when it is well developed.

It is a disease of infants and is usually manifested about the end of the first year and a half of life. It is not hereditary or congenital, but has been rather frequently noted in twins. It is very often, some say invariably, associated with rickets and so also with various catarrhal troubles, particularly those of the intestinal tract. The onset is insidious and early stages can hardly be identified, nor is there apparent any hard and fast line between what one might regard as a natural degree of anæmia in a rickety child and the fully-developed syndrome. The predominant symptoms are enlargement of the spleen, which is hard and "massive," wasting, and anæmia. The liver often seems enlarged, but enlargement of this organ being difficult to evaluate in a very thin child no great stress has usually been placed on this fact. Slight enlargement of glands may also be noticed, but this, again, is not uncommon in a sick child and has not gained a definite place in the symptomatology. To these are added signs of rickets. The blood-picture is notable for a diminution of red cells, which is not often below one-half, and an increase of white cells seldom extreme. Amongst both kinds of cells abnormalities are common—amongst the red cells megaloblasts and normoblasts with poikilocytosis, polychromasia, etc., and amongst the white myelocytes and cells which appear to belong to the more remote ancestors of the ordinary white cells and may be classed as myeloblasts.

The disease is resistant to all specific treatments, but is often recovered from if associated infective conditions are thoroughly taken in hand and eradicated. Otherwise, it progresses to a fatal termination which is commonly brought about by pneumonia or sheer inanition.

There is very little tendency to hæmorrhages, no jaundice, or increased fragility of red cells, and no tendency to cirrhosis of the liver or to any other undesirable sequelæ in cases which recover. It has been treated by splenectomy without fatal results and even with benefit, but it is possible that some at least of the cases so treated were in reality cases of acholuric jaundice or cholæmia.

At autopsy the picture is constant. The spleen, glands, and liver are affected, and microscopically are found to present foci of cells which are not to be distinguished from those of the marrow. These foci appear to be actively forming red and white cells both normal and such as are found as abnormalities in the blood, but the latter especially. Accurate reports on the histology of the bone-marrow are very few. In the liver these foci are found in the areas normally occupied by the fibrous tissue of Glisson's capsule. In the spleen they occupy the pulp and sinuses, in the glands the sinuses. How far the normal lymphatic centres of these latter organs are involved it is almost impossible to say until histological methods are improved. In none of these organs is there any fibrosis of pathological degree. The spleen presents neither the almost negative findings of cholæmia nor the fibrosis of Banti's disease. On the other hand, all these findings are identical in nature and in distribution of lesions with myelæmia (spleno-medullary leukæmia) as we meet with it in adults. They are not identical in extent, and the definite clinical differences prevent our claiming von Jaksch's disease as merely a variety of the adult disease, modified, perhaps, by its happening to occur in a child. Moreover, the adult disease does at times occur in childhood, but is then amenable to arsenic and yet ultimately fatal and is not associated with rickets, or evident infective processes.

THE WRITER'S HYPOTHESIS.

It is obvious from the above that we are dealing with a hyperplastic process in the lymphatic tissues similar in essentials to that seen in leukæmia, but, as it were, on a lower plane. It gives rise to blood changes, indeed, but not to the huge leucocytosis of leukæmia—yet the abnormal cells found, although in small numbers, are identical with those of the latter condition. In accordance with myelæmia, too, is the domination of the clinical picture by the splenomegaly, the apparently secondary significance of the enlarged liver and glands, which are, nevertheless, found affected at autopsy or even during life if carefully noted. The little liability to hæmorrhage strengthens the parallel, as does the chronic course.

Very markedly different, however, are the curability of von Jaksch's disease and the association with rickets and infective processes.

As the disease improves *pari passu* with the infective processes we may propound the hypothesis that in infants with rickets there is a peculiar liability for the response to chronic infections to assume the characters of a leukæmia rather than the more usual leucocytosis. In saying so we must always keep in mind that it is the tissue changes of leukæmia which are of importance, and not their variable reflection in the circulating blood.

Since the process is curable and depends with great certainty on an infection, we may call it a secondary or symptomatic leukæmia to distinguish it from the idiopathic and fatal forms of leukæmia, which would then be called primary. Nor does it stand alone in this secondary class, for there are now on record a great number of cases in which what has seemed to be something very closely allied to primary leukæmia has been present, depending on infection from the tonsils, from boils, or from some other source, such as a septic wound. This has disappeared, however, after puzzling the best physicians, when the septic focus has been properly treated. These have mostly, but not entirely, been cases of secondary lymphæmia (lymphatic leukæmia). Secondary myelæmia has most often been noted in cases of cancer with metastases in the bone-marrow.

It is seen then that the original description of the disease as a pseudoleukæmia was almost accurate. It is inaccurate in that "pseudo-" means just what each individual may care to read into it; but the term did not apparently contemplate the relationship to leukæmia set forth above. Unfortunately the term has since then been used to cover quite dissimilar cases, *e. g.* cases of Hodgkin's disease and cases of true primary leukæmia in which there did not happen at the moment of observation to be a prominent leucocytosis. It cannot, therefore, be retained without risk of continuing confusion. The term "infectiva" would appear to be fully justified. The term "Splenic Anæmia of Infancy" seems to the writer to be suitable in so far as it connotes a well-recognised condition without implying any particular view as to its ætiology or nature, but to be entirely unsuitable in that it covers, or can be made to cover, other conditions more usual at a later age, but which may chance to occur in infancy at times. It is probably best to retain for the present the quite non-commital term "von Jaksch's disease," which has the additional advantage of rendering due recognition to the earliest and most accurate describer of the syndrome.

Should the writer's views prove acceptable, the proper term would be "secondary infective myelæmia of infancy," or possibly "rachitic myelæmia"—for there can be little doubt that rickets has a great part in ætiology, either by predisposing the hæmatopoietic system to the particular type of reaction or merely as rendering the subject more liable to all sorts of infections.

Before attempting to justify the claims made in the early part of this paper it may be well to consider whether the syndrome we are considering may properly be classed as an independent disease. The writer's view is simply this, viz. that it is as much and as little an independent disease as is pneumonia. As pneumonia is the reaction of the lungs to one of various organisms, so is von Jaksch's disease the reaction of the blood-forming tissues to an organism, probably also to one of several organisms, all of which can produce the disease in a favourable soil. It is one of those progressive morbid processes which are sometimes termed symptoms, sometimes diseases. So also pupura is sometimes regarded as merely a symptom and sometimes, there then being no obvious ætiological factor, elevated to the rank of a disease. It is a matter of which every physician must judge for him or herself, nor does the conclusion to which each may come in any way affect the theory here set forth or the facts with which it deals.

Application of the Hypothesis.

Amongst the acknowledged features of the disease set forth above some are not elucidated by the writer's views, while others are rendered more easily explicable. They may well be taken in turn.

Age incidence.—This seems to depend largely on the unknown factors which determine the incidence of rickets at the same age. It is also worth noting, as in part perhaps explaining, why the reaction should take the particular form seen in von Jaksch's disease that this form is essentially unspecialised and embryonic. It does not seem unnatural that an embryonic form of reaction should occur most readily in those but little removed from embryonic life, even if they have already moved a short way along the road to adult specialisation of the blood-forming organs.

Family incidence.—That the disease should be congenital or hereditary is not to be expected on any hypothesis. That it should occur rather often in twins may be due to either factor in the ætiology. Twins are apt to suffer from defective nourishment and from rickets, and if one twin should contract an infection, the other would be most likely to get it also. That the response in the two should be the same is quite what one would expect.

Association with rickets.—This appears to be constant, and those cases in which it was not noted were probably cases of some other disease, and will be dealt with later. It may be noted that on the theory of a secondary infective leukæmia we really need some such factor as rickets to explain why anything more than the normal leucocytosis should have occurred. It may be remembered that a disordered growth of young bone is also characteristic of rickets, so that we have even an apparently parallel effect on another tissue to put in evidence. That rickets predisposes to infections is well realised, and the writer has already stated that this is, perhaps, the only share it has in the disease. But the theory of a direct predisposing influence is certainly more satisfying and more attractive, and is not unreservedly accepted here because it rests only on probability, and is a matter of which we cannot at present have direct proof.

Insidious onset and ill-marked early stages.—It is apparent that if we are dealing with nothing more than a slowly developing reaction of the blood-forming tissues to an infection, that reaction will not be recognised until it is well marked. Clinically, there are two chief and readily appreciated signs of the reaction, viz. the splenomegaly and the blood changes. Both of these are progressive in nature, and have small beginnings little liable to attract attention. Moreover, splenomegaly at least may be due to other causes, and so not have great weight attached to it by the clinician until it is more or less extreme. Again, it may be that the infection is controlled by treatment almost before the reaction is established, or when it is still in early stages. We shall then be faced with a case which will appear as one of rickets, with few other changes of consequence, but just enough on careful examination to seem to justify the statement that von Jaksch did not describe a disease which is entitled to be called a clinical entity. On the other hand, when the spleen is very large and the blood changes well marked, especially if the case be first seen at this time, it may be that the rickets will appear to occupy a subsidiary position and von Jaksch's disease the place of primary importance. This difficulty has evidently been felt by physicians, and papers have been written (the writer regrets his present inability to give due credit to the writers) to show that there was no hard and fast line between rickets with anæmia and von Jaksch's syndrome. Other authors have described a series of well-marked cases, and come to quite the opposite conclusion.

The writer claims that on the hypothesis of a secondary infective leukæmia all these difficulties disappear. The process is essentially the same whether it is ill or well marked.

Splenomegaly and anæmia.—From experience of adult cases of primary leukæmia, and also of some of the secondary cases dependent on cancer with bone metastases or on sepsis, we know that the spleen does seem to dominate the clinical picture in chronic myelæmia. We know also that anæmia is always associated—and this is perhaps due to impairment of normal red-cell formation by the increased output of white cells, or perhaps to the actual involvement of the red cell forming centres in the morbid process. The latter appears most probable in von Jaksch's disease, for the red cells are not only diminished but also very abnormal in form and nature. The conception of a secondary infective leukæmia fits in well with these facts.

Enlargement of liver.—We have seen that at autopsy this is found to be due to the presence in Glisson's capsule of foci of white cell formation. The disposition of these foci is seen in no other disease except leukæmia, and would of itself almost justify the hypothesis set forth.

Enlargement of glands.—This is not well marked, as also it is ill marked in the myelæmia of adults. As a matter of fact it is commonly much more evident in just those glands which are least accessible to clinical examination, viz. the mediastinal and mesenteric. That these things should be so (and they can be verified by all), is further evidence of the very close relationship to adult myelæmia.

Blood changes.—These have always been felt to be anomalous and difficult to explain. All the difficulties disappear if they are looked upon as manifestations of a low grade leukæmia, *i. e.* a leukæmia in which the formative functions of the marrow, spleen, etc., are at a far lower level of hyper-activity than is the case in the primary leukæmias, and in which the output of abnormal cells is consequently less and the interference with the output of normal cells also less.

Resistance to specific treatments.—Many treatments have been used for von Jaksch's disease, *e. g.* administration of arsenic in increasing doses; X-rays; splenectomy; salvarsan, etc. None of these has achieved notable success unless accompanied by treatment directed to the infections and rickets. In adult leukæmia, on the other hand, the use of arsenic and X rays can be depended upon to produce at least one remission in the great majority of cases. Here we have a difference between the two which may be susceptible of more than one explanation. Thus the causes of the two diseases are different, and it may be that arsenic affects the cause directly in leukæmia and not the leukæmic process to which the cause gives rise. In such case we should have no warrant for expecting the efficiency of arsenic in a secondary leukæmia due to other causes. Or it may be that the non-curative but striking effect of arsenic in adult primary leukæmia is really exercised to some degree in secondary leukæmia also (there are cases which seem to warrant some such assumption), but that owing to the lesser degree of reaction in the latter, the result is also less obvious. For we must remember that the cure of the secondary leukæmia alone would not necessarily or even probably effect the cure also of the rickets or infections. However this may be, it is seen that the different response to treatment does not in the circumstances tell against the essential unity of the two conditions.

A Final Difficulty.

The final difficulty in the acceptance of any theory of this or any other disease is the unfortunate relationship which pathology has come to hold to medicine. Neither party seems to be accustomed to think pathologically. The pathologist whose sphere should surely be all morbid physiology has come to specialise in morbid anatomy and bacteriology—each a very small division of the study of disease processes in man. The physician, on the other hand, seldom takes the trouble to study the process beneath his eyes, seeing only one diseased condition instead of the steady progression of a perverted physiology. Should the pathologist, who has probably never seen the case, send a definite opinion on some minute particle of tissue or excrement, the physician seems to find his whole needs fully satisfied by the acquisition of a more or less appropriate label.

If we are to understand von Jaksch's disease these attitudes must be abandoned. In the first place, it is necessary to envisage fully the position that leukæmia is not merely or chiefly a condition found in the blood by the pathologist, but primarily a tissue change.

This tissue change may even for a great part of its course lack any reflection in the blood at all, and until we understand something of the mechanism whereby blood-cells are shed off into the blood-stream, we are hardly entitled to be surprised thereat.

This tissue change is apparently different only in degree from one sort of defence reaction of the tissues, viz. "small round-celled infiltration," such as is met with in many conditions, and which is not an infiltration at all, but a local reaction.

Between primary leukæmia and small round-celled infiltration there are many grades of reaction, and to some of these the name secondary leukæmia seems not inappropriate. Of the latter, von Jaksch's disease is one form—the liver lesions would commonly be described as small, round-celled infiltration, the spleen lesions are typical of leukæmia.

OTHER SOMEWHAT SIMILAR DISEASES.

With regard to other diseases reported under this head, one can only say that the disease described here is a definite morbid process, and cases that do not conform to any stage of it are not von Jaksch's disease. The combination of a large spleen and anæmia—and these are practically the only abnormalities which are obvious to the clinician—does not justify the diagnosis except when it occurs in infancy and in association with rickets and infections. To describe such cases in older children, and more or less obviously dependent on syphilis, and from this to argue that von Jaksch's disease is due to syphilis, is science gone mad. Yet this has not infrequently been done. We can only hope to elucidate the nature of von Jaksch's disease by determining as accurately as possible to what morbid condition that term should apply; not by collecting together a number of dissimilar conditions (as has recently been done), and seeking to cover them with the one name. The morbid process here described certainly exists, and if it is not von Jaksch's disease, then it is a disease hitherto unknown in medical literature, which, in view of its frequent occurrence, seems unlikely.

THE HYPOTHESIS RE-STATED.

The writer's view of von Jaksch's disease is then as follows: The disease is a reaction of the infantile blood-forming organs to infection. The actual infecting organism is not known, and is not necessarily specific. The particular reaction is only produced when rickets is present, and it is probable that the conditions present in rickets are in some way responsible for the reaction taking the form which it does. There are, therefore, two essential ætiological factors of which neither alone would prove sufficient, viz. infections as an exciting factor and rickets as a predisposing factor.

The reaction itself is similar in nature to that seen under the influence of the unknown cause of the disease known as myelæmia or spleno-medullary leukæmia. Similar reactions of lesser intensity than in primary leukæmia have been noted in cases of sepsis and of cancer with bone metastases. In some at least of these the spleen has been enlarged and myeloid and the liver and glands similarly affected. All of them differ from primary leukæmia, not in nature but in extent and curability.

It is suggested that they may well be called secondary or symptomatic leukæmias, and von Jaksch's disease would then take the descriptive name of secondary infective myelæmia of infancy or rachitic myelæmia. It is not urged that these names, although accurate from a descriptive point of view, should forthwith replace the term von Jaksch's disease.

NOTES ON SMALLPOX IN CHILDHOOD.

By H. W. L. Barlow, M.D.,

Senior Assistant Medical Officer, Joyce Green Hospital, Dartford.

The recent small outbreak of smallpox in the East End of London has been largely an affection of children: of the first thirty patients admitted to hospital fourteen were under fifteen years of age, ten being under ten years, and two infants. The following brief account, though necessarily incomplete, may be of some interest.

A sailor, returning home from a Spanish port, was in bed for two days with a "cold," "came out in pimples" about the third day, and then, feeling better, got up and signed on for another boat. He left by this boat about the eighth day, the "pimples" remaining for some days after he was on board. On the day of his departure, a child, A, 6·5—(the letters refer to different families, the figures to the age in years)—returned from her grandmother's to the house he was staying at. Eight days afterwards she was taken ill with vomiting and pains in the back, went to a hospital, was given a powder, and told to come again if there was a rash. A rash did appear on the following day, but as the weather was cold, a doctor was called instead. He thought it measles. On the third day another rash appeared, thought by the neighbours to be chickenpox. This was very copious, and on the ninth day the child died. An unvaccinated brother, aged 4 months, subsequently developed smallpox. Three families, B, C, and D, numbering eighteen persons in all, were intimate with A, and twelve of them, three adults and nine children, were subsequently attacked. The three adults were the mothers, women of thirty-seven or thirty-eight, who had not been vaccinated since infancy ; the nine children were first vaccinated during the incubation period, as contacts. Of the six children remaining unattacked, four, according to the mothers' statements, had been vaccinated prior to exposure ; the other two, not.

The outbreak made further progress with the peculiar erratic certainty characteristic of smallpox. Part of A's clothes went to a laundry and infected a sorter there ; some were starched by another woman and gave rise to two cases among her children. Two friends of the D family, the undertaker who buried the dead child, and subsequently his wife and daughter, all developed smallpox. Finally, a carpenter unconnected with any of them, who appears to have been accidentally included in the funeral party, on his way to work close by, was attacked, and so, later, was his wife. In other cases no apparent connection could be traced.

Except the one mentioned, none of these attacks proved fatal; nearly all those admitted to hospital were discrete cases and some very mild : the combination of a considerable degree of infectivity with rather low virulence seems to have been a feature of the outbreak.

Of the total of fourteen children under fifteen years of age, if we consider first five who were never vaccinated at all or only after the commencement of the actual illness, we find, as is customary, that the amount of eruption was perhaps rather smaller than in corresponding adults. Two of them, D, 14, and F, 6, had somewhat severe discrete attacks followed by much scarring of the face, hands, etc. The distribution was normal in the first; in the second younger child there was some attraction of the rash to the buttocks and thighs at the expense of the feet. In two others, X, 13, and Z, 10, the eruption was scanty; it was distributed normally in the first, but more uniformly than usual in the second. The remaining case was a baby, aged 4 months, brother to the child who died; the pocks were fairly numerous on the buttocks and backs of thighs, and there were a few about the elbows, but scarcely any on the hands, feet, or trunk, and practically none on the face. It will thus be seen that the distribution, as a rule, followed that prevailing in the adult (face, back, and extremities most affected, abdomen less), with some few exceptions, due to infantile conditions of skin irritation. The duration of the initial illness appears to have been normal; information is wanting as to the symptoms, but apparently they were slight. In hospital the secondary fever was also slight, and the constitutional disturbance hardly exceeded that in chickenpox with a rash of equal extent. Some had a little conjunctivitis and one a small phlyctenule, but the mucous membranes, as a rule, escaped. Individual lesions presented the usual features; in one or two cases there was sensible modification, but then only to a small extent; it was perhaps better marked in some of the other vaccinated children.

The nine children not hitherto spoken of, were vaccinated for the first time in the incubation period, about a week before the appearance of the smallpox rash, and apparently with success. According to the statements made, the interval between the two events varied from six to eleven days, but was most commonly seven or eight; in one case it could not be ascertained. All these cases, except two, had very mild attacks; these two, W, 4, and D, 7, were discrete cases with the usual distribution, except that there was some tendency for the hands and feet to escape their due proportion of rash. In another child, B, 8, whose rash was moderately dense on parts of the body, the face was but lightly attacked. In the six others, though no actual count was made, it is probable that the number of pocks was under fifty altogether, and in three of them under a score. C, 13, had previously suffered from a species of bullous impetigo which had left deeper scars than did the smallpox. C, 2, had most of the rash on the thighs and forearms, the face and scalp being practically free. E, 6, had a morbilliform prodromal rash, followed by a scanty eruption, with one pock in the left axilla. In B, 1, the scalp and face were free, and B, 5, had only one pock on the face. D, 5, had none on the hands or scalp, and practically none on the feet.

Severe confluent chickenpox with fever, slight delirium, and some œdema of the face, such as sometimes occurs,* would, superficially, present a more formidable appearance than most of these cases. But, though the diagnosis was doubtless simplified in those children where the eruption was sparse, by the fact that, as contacts they were already suspected of smallpox, a careful estimate of the relative importance of the features presented, especially the development and distribution of the lesions, would have sufficed, apart from this. It may, however, be reasonably doubted whether it would be possible in later life, from an inspection of the skin alone, to say whether some of them had had smallpox or not.

---

* J. D. Rolleston, "Confluent Varicella with Secondary Fever," British Journal of Children's Diseases, 1906, iii, p. 21.—(Ed.)

I am indebted to Dr. A. F. Cameron, Medical Superintendent of the Smallpox Hospitals of the Metropolitan Asylums Board, for permission to contribute these notes.

"CAN THE CLINICAL MANIFESTATIONS OF CONGENITAL HEART DISEASE DISAPPEAR WITH THE GENERAL GROWTH AND DEVELOPMENT OF THE PATIENT?"

By F. Parkes Weber, M.A., M.D., F.R.C.P.

The only case hitherto recorded in which the clinical manifestations of congenital heart disease have disappeared during the progress of the general growth and development of the child is, as far as I know, one recently described by Dr. Herbert French ('Guy's Hospital Gazette,' London, 1918, xxxii, p. 87). The patient was a boy, the only child of a naval officer, and was fourteen months old when Dr. French first examined him. At that time there was a very loud systolic murmur, "with its maximum intensity over the fourth left intercostal space, close to the sternum, but audible also over the whole precordial region, and, indeed, over most of the chest, both back and front." Dr. French adds that it was accompanied by a thrill, near the sternum, and that he and others made the diagnosis that there was a congenital aperture in the interventricular septum. When the boy was two years old, the murmur was about the same as before, very loud and universal; but when he was five years old, there was absolutely no murmur to be heard. At the age of ten years there was no objective evidence of the presence of any heart lesion at all, and ultimately, to the father's great delight, the boy was passed as eligible for the Royal Navy.

It seems to me that this case, rare as it may be, is one of great importance in regard to the question of prognosis. We may remember what happens occasionally to certain congenital lesions in other parts of the body. Thus, we know that in some cases congenital vascular nævi of the skin spontaneously diminish, or even disappear altogether, with the general growth of the child. Moreover, as Dr. French points out, a lesion in a baby, such as a defect in the interventricular septum, may be considerable in regard to the small size of the whole organ and the whole body; but if, during the progress of the child's general growth, the defect or lesion does not enlarge in proportion to the enlargement of the whole organ and the whole body, it may ultimately become so relatively small as to be negligible and give rise to no abnormal physical signs or symptoms whatever. I should like to add that occasionally unusual apertures in the interventricular septum occur which are surrounded by much fibrous or cicatricial tissue; and it is just conceivable that the contraction of such tissue might, in similar rare cases, lead ultimately to great diminution, or even complete closure, of the aperture.

Though Dr. French's remarkable case is the only one of the kind which I have as yet come across in the literature of the subject, I am able to say decidedly that it does not really stand alone and without confirmation. Some years ago a foreign medical *confrère* gave me an almost identical history in regard to a boy who was a relative of his by marriage. The boy used always to be cyanotic, and had a tremendous thrill or *frémissement cataire* of Laennec (*fremitus felinus*) over the heart, together with a murmur which could be heard with the ear at a slight distance from the chest. However, in other respects, that is to say, in regard to general condition, his development was good, and he became rather unusually strong. He could wrestle well, and used to go for long walks in the hills without becoming over-fatigued. Ultimately, he was examined for military service, and was passed as quite fit, the examining doctor "finding nothing wrong with him."

POSTCRIPT (May 16th, 1918).

Since writing the above note I have seen a letter by Dr. Louis Stamm, in the 'Guy's Hospital Gazette' (1918, xxxii, p. 146), referring to two cases in which a congenital cardiac murmur completely vanished. Both cases were in boys. One was seen in consultation with Sir James Goodhart, and the murmur became less and less audible, and by the time the boy was six years of age it was altogether absent. The other had been under Sir James Goodhart's observation, who stated that the murmur completely disappeared as the boy grew up.

A NOTE ON ERYTHEMA IRIS.

By F. Parkes Weber, M.A., M.D., F.R.C.P.

The patient, F. F—, a boy, aged 6 years, is the only child of apparently healthy parents. He has always been delicate, and is subject to recurrent bronchitic attacks, with a tendency to asthmatic breathing. In the early part of February, 1918, he had a sharp attack of broncho-pneumonia, the febrile portion of which lasted about nine days.

The erythema iris commenced about the middle of April, 1918, when the boy was apparently in good health and in the absence of any obvious exciting cause. It was limited to the skin of the trunk and was not accompanied by fever, pain, itching, or any disagreeable cutaneous sensation worth mentioning; nor was there any obvious inclination to scratching. There were three patches or "systems" of the erythema iris, the largest in front of the trunk and one of smaller size on either side. Each "system" consisted of thin, somewhat irregular, circular or noose-like, erythematous lines, slightly raised above the general level of the skin, one line within another, the outside line being doubtless generally that most recently developed. In the largest of the "systems" (that in front of the trunk), at one time as many as seven distinct circles could be easily made out; later on, the inner circles gradually faded and the skin

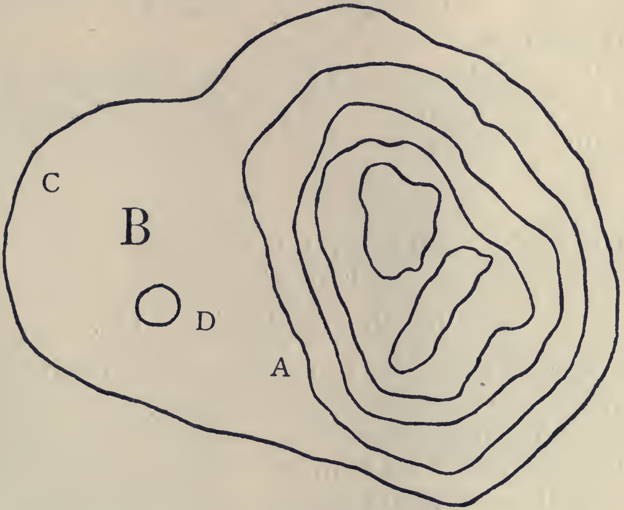


Diagram (natural size) to illustrate one of the "systems" of erythema iris.

commenced to desquamate slightly. The boy was given calcium lactate (7½ gr. thrice daily) and the eruption slowly disappeared in the first half of May. The accompanying diagram (see Fig.) is of one of the "systems"—that on the right side of the trunk—to illustrate the formation of a fresh (outermost) noose of erythema. The area *B* was observed one morning to show a diffuse urticaria-like blush; it was by the side of the patch ("system") of erythema iris marked *A*. One or two days later the diffuse erythema had faded and given place to a thin, looped erythematous line (*C*), which extended so as to include within it the already formed system (*A*). About ten days later a small circle of erythema (*D*) formed within the area enclosed by the loop of *C*. Then the whole "system" gradually faded away.

It may be noted that in the present case a Roentgen skiagram of the thorax shows the presence of enlarged hilus bronchial glands, but the Pirquet cuti-reaction for tuberculosis is negative.

CASE OF HÆMOPHILIA WITH EFFUSION INTO KNEE-JOINTS.*

By Paul Bernard Roth, F.R.C.S.

A boy, aged 6½ years, was admitted to hospital on January 26th, 1918, with greatly swollen knee-joints, his mother stating he was a hæmophilic. The family history was negative. The patient is the only child. Previous to his birth his mother had one miscarriage at the fifth month, preceded by repeated grave hæmorrhages. When she has had her teeth removed there has been considerable bleeding for some days after. Of the mother's relations, two sisters are alive and well. Both are married; one has two boys, and the other a girl, all of whom are healthy. The father died at seventy of old age; he was not a bleeder. The mother died at sixty of cancer of the stomach. She had two brothers who are both alive and well, and are not bleeders.

History of case.—The patient was quite well until he was 2 years old, when he fell down and tore his upper lip at the frenum. He bled for two days, and was treated by the electric cautery. Soon after he bled from the tongue for three days. At the age of three his right knee swelled up suddenly; after some time the swelling subsided. Since then the swelling has appeared and subsided repeatedly, and the knee has never been quite well. He also used to bruise very easily; thus the whole of his back or the whole of one arm would become bruised. This tendency has not been noticed for some time. When 6 years old his left knee suddenly swelled up and then subsided; it has done this several times since. Only six weeks ago he started to bleed profusely from the socket of a milk molar. The hæmorrhage lasted for a week, and was always much worse at night.

---

* The case was shown at the Section for the Study of Disease in Children of the Royal Society of Medicine on February 22nd, 1918.

On admission he was seen to be an intelligent, fresh-complexioned, well-nourished boy, with brown hair and eyes. His tonsils were hypertrophied as large as cherries, blocking up his throat. His knees were enormously enlarged, especially the right, which was hot and glazed. A few days after admission he scratched his left index finger one afternoon, and the next morning his shirt and bed-clothes were covered with blood. The scratch bled for two days. The swelling of the left knee gradually disappeared, but that of the right has only slightly lessened.

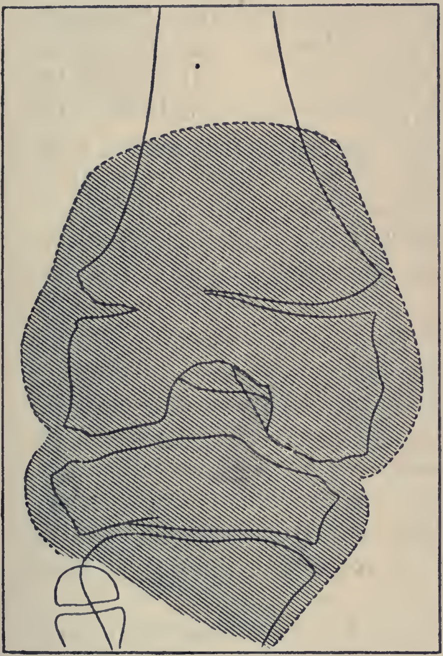


FIG. 1.

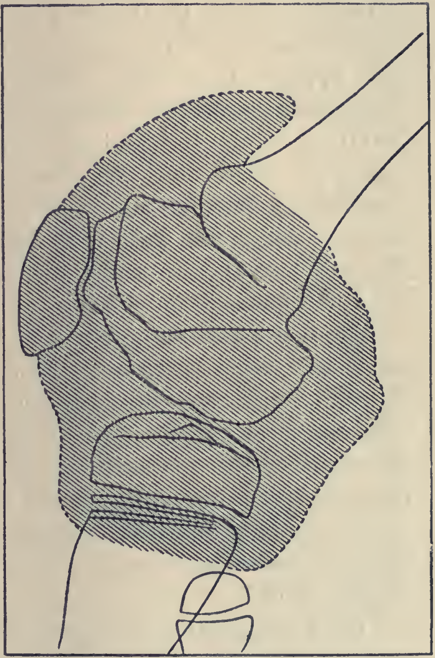


FIG. 2.

Skiagrams of the right knee by Dr. W. Ironside Bruce show extensive wearing away and absorption of the cartilage and bone of the articular surfaces of the femur, tibia, and patella. There is also to be noticed the formation or building up of new bone at the edges, *i. e.* lipping, and a dark shadow surrounding the bones, an appearance evidently due to distension of the synovial cavity with blood. These appearances taken together, and with the age of the patient, are unlike those in any other condition, and I suggest they are pathognomonic of hæmophilia (*vide* fig.). I believe this to be true hæmophilia in spite of the absence of a family history. I have no doubt the joint effusions are due to blood, but some writers say definitely that the effusion in these cases is not due to blood but to serum, some state that the effusion is due to mixed serum and blood, and others that in every case the effusion is blood; so that there does not appear to be any certainty on this point. In this case the skiagrams showed a marked shadow, and I do not doubt that the swelling is due to blood. The mother mentioned that several times when the child bled the bleeding was worse at night, a fact which has been noticed by all writers on hæmophilia. The family history in this case, as far as it goes, does not show anything, but presumably the boy had ancestors who did bleed unduly, or this may be the start of a new hæmophilic stock.

Another point of interest is the diagnosis. When first seen the case was what a proper examination diagnosed as a tuberculous knee, and in the literature cases are described as having been diagnosed as acute tuberculosis even by good observers, and some have even been operated on and have died. In this case the mother came with the patient and said he was a hæmophilic, and in such an event the confirmation when the idea is present is easy, but I think that if there were any difficulty the X-ray examination would clear up the doubt.

With regard to prognosis, the chief feature in this case, to my mind, is the damage to the knees, which are practically sure to become more or less ankylosed. I want to obviate this as much as possible by endeavouring to prevent other attacks of effusion into the joint by limiting the movements of the joint with splints. I shall therefore apply two "knee cages," and give regular doses of thymus gland and calcium and magnesium salts.

The only other feature in this case which calls for comment is the condition of the tonsils. His two large tonsils are seriously interfering with his breathing; they seem completely to block up the back of his throat. He has also got a very high-arched palate. But for the hæmophilia the tonsils would have been removed at once. In order to get him better we want to improve the quality of his blood, and the best way to do that is to give him a free air-passage.

So that here we have a vicious circle; we cannot remove the tonsils because of the peculiarity of his blood, and the enlarged tonsils stand in the way of efforts to improve his blood. In the literature dealing with operations on the tonsils in hæmophilic subjects I find that an American surgeon, Packard, did remove the tonsils of a known hæmophilic, and the case bled afterwards for six days. At the end of that time the bleeding was stopped by injecting 20 c.c. of rabbits' serum into the buttock. I would like to meet a laryngologist who would be willing to remove these tonsils. I think it ought to be done, but not by me.

PREGNANCY OCCURRING IN A CHILD AGED 14 YEARS.

By JAMES BURNET, M.A., M.D., M.R.C.P.E.

I WAS consulted recently by the mother of a girl, aged 14 years. The mother had noticed that a fortnight before some secretion was coming from the child's breasts, which were very full. I found that menstruation, which had commenced at the age of 12, and had been quite regular ever since, had ceased four and a half months before. The girl was, in my opinion, remarkably precocious for her years, and conversed with me quite as an adult might do, and frequently interrupted her mother in discussing the case with me. On compressing the breasts a considerable quantity of thin fluid could easily be caused to flow from the nipples. There was no morning sickness, but a certain amount of anæmia was present. On examining the abdomen I found it enlarged in accord with the period which had elapsed since the last menstruation. The mother had no knowledge regarding any sexual intercourse on the part of the child, who was stated to be an apt scholar and took a great interest in her school work and was well behaved at home.

Pregnancy in such a young child is not common, and, consequently, I think the case is interesting enough to place on record. Cases have occurred at even an earlier age, and, in fact, many instances have been recorded by medical jurists of girls of 14 who have conceived and been delivered quite successfully at full time. The interest of this case for pædiatrists, however, lies in the fact that they may be consulted for a similar condition and may easily be thrown off their guard should they not suspect pregnancy as a cause of enlargement of the breasts in a young girl. In this particular instance the precocity of the child made me suspicious even before I made any examination of the patient, consequently there was little or no difficulty in forming an opinion as to the real nature of the case with which I had to deal.

Since writing the above I have received a letter from the mother of this patient, stating that the baby (a male) was born on the afternoon of April 22nd. He is said to be a healthy child, and weighed 9 lb. at birth. The labour was practically uneventful. Conception took place on the afternoon of July 28th, 1917; the duration of pregnancy was, therefore, 268 days. The father of the child is a boy of about the mother's own age. Shortly before having connection with her he presented her with a ring. The affection appears to have been mutual, and the couple apparently regarded themselves as man and wife, so that the case has a psychological as well as a medical interest.

INFANTILE KALA-AZAR IN FRANCE.*

By Marcel Labbé, Targhetta, and Ameuille.

Infantile visceral Leishmaniasis, which is also known by the name of infantile kala-azar or Mediterranean splenomegalic infantile anæmia, has not hitherto been observed in France, apart from cases which had arrived so recently that the disease could not be regarded as having been contracted in this country.

We have just observed two undoubted cases which appear to have actually originated in France, and which show that our territory is as liable to the disease as other neighbouring countries on the Mediterranean such as Italy, Sicily, and Tunis. The cases occurred in two Serbian refugee children at Nice—a girl, aged 9 years, and her brother, aged 6 years. The girl was taken ill with fever of an oscillating type on September 15th, 1917, and ever since has continued to have febrile attacks, at first every day, and then at longer intervals, accompanied by enlargement of the liver and spleen without intestinal disturbance. The boy showed his first symptoms at the end of December, 1917, with a temperature curve similar to that of his sister and almost identical symptoms, but without increase in size of the liver. Both present a marked degree of anæmia and emaciation, but at present are improving, perhaps under the influence of intravenous injections of emetique.

In January, as the result of puncture of the liver in the girl and of the spleen in the boy, some drops of blood were obtained containing a large number of Leishman bodies, both free and in the macrophages.

---

* A communication made to the Académie de Médecine, Paris, on April 2nd, 1918.

The diagnosis was confirmed by Prof. Laveran, who kindly examined our specimens. The same parasites were also found, but with much greater difficulty, in blood taken from the boy's finger.

These two patients undoubtedly contracted their illness in France. They arrived in this country at the end of January, 1916, and immediately settled at Nice, eighteen months before the earliest symptoms appeared. If they had contracted the disease out of France the incubation period would have been eighteen or twenty months, which is unlikely. The incubation period of infantile kala-azar is certainly long, but its duration is undoubtedly shorter than this, since the disease has been found in children under 1 year old; the earliest case, recorded by Cathoire, was in a child, aged 6 months, and, even if it had been infected at birth, the incubation period would have been only just six months.

Infantile visceral Leishmaniasis has been attributed to contamination of the children by infected dogs. Canine Leishmaniasis was found by Pringault on the Mediterranean coast from Marseilles to the Italian frontier. It is, therefore, not improbable that the children living at Nice were infected in this way, especially as two months before the appearance of the first symptoms in the older child their mother had made the acquisition of a native dog, which lived with the family. This animal was killed, and carefully examined by us. Leishman bodies were not found in the viscera. The bone-marrow, however, appeared to be in an active condition, and the spleen was large, hard, and presented old infarcts and perisplenitis with omental adhesions. It is possible that the animal had been ill previously, and had had time to recover completely, as is frequently seen in canine Leishmaniasis.

Probably infantile kala-azar is not extremely rare in the district in which these two cases occurred, although no cases have hitherto attracted medical attention there. The doctors who first examined our patients first diagnosed enteric fever and then malaria.

Another patient examined by us, an infant, aged 15 months, developed the same series of symptoms—irregular fever, considerable enlargement of the spleen and liver, extreme emaciation and anæmia of the same type as in the two previous cases—but finally recovered. In all probability this was also a case of infantile Leishmaniasis, but there was considerable doubt at first, and malaria was thought of before a definite diagnosis was given, and when this was made on clinical grounds it was too late to confirm it by making an examination for the parasite.

To sum up, infantile visceral Leishmaniasis exists in France, at least in the region of our Mediterranean coast in the neighbourhood of the Italian frontier. It is met with in this territory in association with canine Leishmaniasis, with which it is perhaps causally connected. Probably the cases will increase in number when more attention is given to the disease.

AN EPIDEMIC OF FAMILIAL SYPHILIS.*

By E. Jeanselme and Mme. Chatelain.

The following history is a lamentable example of familial contagion. Syphilis was introduced into a vigorous and healthy family composed of a father, mother, and *ten* children by a soldier on leave, the husband of one of the daughters.

Contamination by soldiers is unfortunately very frequent; every day at our out-patient department at the Fracastor dispensary, which is attached to our service at the Hôpital Broca, we see a number of women, many of them mothers of a family, with a hard chancre which has appeared from a fortnight to a month after the return of their husband to the Front.

Sometimes even the infection is propagated to several members of a family. In the present case it gave rise to six victims. A young woman, aged 28 years, three weeks after the return of her husband who had been at the Front for nine months, presented a vulvar chancre, which was soon followed by a typical roseola and intense headache.

At the height of the secondary stage she suckled her baby, which was born a few days after her husband's return. She has erosive syphilides on both her breasts, and her infant son developed buccal syphilides and then anal lesions. The child was weaned about the age of 10 months. The grandmother, aged 49 years, frequently gave the bottle to the child, and to make sure that the milk was not too hot she used first to put the teat in her mouth. Consequently, in her case also, the lesions first appeared in the mouth, and the chancre was apparently situated on the left tonsil. This woman still presents active buccal syphilides.

A sister of the first victim gave birth six months ago to a perfectly healthy child. He was often entrusted to the care of its aunt and grandmother, and was infected by one of them. The primary lesion was situated in the palate, and was rapidly followed by a roseola and mucous tubercles in the mouth. The child was suckled by its mother, who in her turn became contaminated, and at the present time still has a hard chancre at the base of the right nipple.

---

* A communication made to the Société médicale des Hôpitaux de Paris on July the 6th, 1917.

Finally, another sister of the two mothers, aged 14 years, who was looking after her two little nieces, and tasting the food she gave them with their spoons, developed in her turn buccal lesions and cutaneous syphilides.

The family still has three members who have escaped. One girl, however, aged 12 years, is sleeping in the same bed as her sister, aged 14 years, who is infected, and there is little chance of her escaping.

This story requires no comment. It proves the urgency of a prophylactic control of men on leave. A regulation does exist forbidding men who are contagious being granted leave. Why has it not been observed?

A FIFTH CUSP AND HEREDITARY SYPHILIS.*

By C. Mantoux.

Some months ago Sabouraud† drew the attention of clinicians to a dental malformation characterised by the appearance of a mammillary eminence on the inner surface of the first upper molar, or, more precisely, on the inner surface of the anterior cusp of this tooth. This eminence corresponds to a supplementary or fifth cusp, which is more or less developed, and is connected with the four normal cusps. According to Sabouraud, it is invariably associated with syphilitic heredity, and is alone a sufficient guarantee of its existence; furthermore, the Wassermann reaction was invariably positive in the twenty cases observed by Sabouraud.

A statement of this kind required control observations. Ever since the publication of Sabouraud's article, *i. e.* since last March, we have made a systematic examination of the teeth of patients under treatment in the clearing station for tuberculous soldiers at the Hôpital Laennec. In seven of our cases we found a supplementary cusp exactly corresponding to Sabouraud's description. None of our subjects presented, either in his family or personal history, anything suggestive of hereditary syphilis, and the most careful examination made in each case did not reveal any stigma.

---

* A paper read before the Société Médicale des Hôpitaux de Paris, October the 26th, 1917.

† R. Sabouraud, "Sur un signe dentaire de l'hérédo-syphilis," 'Presse Méd.,' March the 22nd, 1917, p. 169.

The Wassermann reaction was carried out in our seven patients. It was negative in five and positive in two. But these two patients were suffering from acquired syphilis, one of them presenting leucoplakia of the tongue, and the other had been treated ten years previously for a hard chancre, followed by characteristic secondaries.

While we were carrying out these observations, Mozer and Chenet* made a similar investigation of the fifth cusp among the children in the hospital at Berck. They found it in nineteen cases, none of whom presented symptoms of heredo-syphilis, and who all had a negative Wassermann reaction even after re-activation.

The observations of Mozer and Chenet, like our own, are in complete contradiction to those reported by Sabouraud. The fifth cusp, which has long been known to dentists, is regarded by them as a morphological variation, and is frequently observed apart from any syphilitic heredity.

Perhaps it is found more frequently in the heredo-syphilitic than among other subjects. Personally, we have recently seen a case in a child of one of our patients who is both syphilitic and tuberculous. On the other hand, Mozer and Chenet have found it present in only one out of sixty heredo-syphilitic children.

Further investigations will be required to settle this point: but it may now be affirmed that the fifth cusp is very far from being "a certain sign of syphilitic heredity."

Royal Society of Medicine.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Friday, February the 22nd, 1918.

Dr. J. Porter Parkinson *in the Chair.*

Case of Hæmophilia with Effusion into Knee-joints.—Mr. P. B. Roth (*vide* p. 116).

Case of Enlarged Liver and Spleen.—Dr. J. Porter Parkinson showed specimens from his case which he had brought before the Section in November, 1917 (*vide* British Journal of Children's Diseases, 1918, xv, p. 43). The patient had died in the middle of January. For a fortnight previously the temperature had been raised to about 102° F.

---

* Mozer and Chenet, "Les stigmates dentaires de l'hérédo-syphilis: la valeur de la 5^e cuspide," 'Presse médicale,' September the 20th, 1917, p. 541.

each day, but no fresh physical signs were observed. The liver and spleen were unchanged in size. Post mortem both lungs were found to be fibrous at the roots with enlargement, but there was no caseation of the bronchial glands. Miliary tubercles were scattered throughout both upper lobes, and there was a small amount of greenish lymph on the surface of each lung. The pericardium contained about a pint of thick greenish-yellow pus in which pneumococci were found, and was densely adherent to the left lung. The heart was covered with a ragged deposit of lymph, and its surface was distinctly fatty. The valves were competent. There was no free fluid in the abdominal cavity. The liver was only slightly enlarged and weighed 38 oz. It was typically hobnailed, and the capsule was slightly thickened. The cut surface showed a coarse multilobular cirrhosis, and microscopically there was much exudation of leucocytes round the portal canals. Tubercles were scattered throughout. The spleen was much enlarged and weighed 15 oz.; the capsule was slightly thickened. It contained numerous tubercular masses, many of which were caseating. Microscopically there was a marked general infiltration with lymphocytes. The kidneys weighed 4¾ oz. and 5 oz. respectively, and were much congested. The capsule stripped with difficulty and was much thickened. There was marked cloudy swelling of the convoluted tubules with infiltration of the intertubular tissue with leucocytes, and a few scattered miliary tubercles. The mesenteric glands were enlarged but not caseous. No tubercles nor ulceration were seen in any part of the intestine or peritoneum. Clinically, the boy had had occasional rises of temperature for a week or so with apyrexial intervals. There were breaking down glands in the neck and signs of enlargement of the liver and especially of the spleen. Dr. Parkinson thought the splenic enlargement might be due to tuberculosis alone, though the enlargement was greatly in excess of what was usually found. The cause of the cirrhotic liver was not obvious. Syphilis could be excluded, as the Wassermann reaction was definitely negative on three occasions and there was no reason to suspect alcohol as a cause.

Enlarged Suprarenals and Sudden Death in an Infant.—Dr. Eric Pritchard showed specimens of enlarged suprarenals from an infant, aged 5 weeks, who died suddenly. Post mortem no cause of death could be discovered. The suprarenals were very large, about the size usually found in a fœtus at the sixth month. They were quite normal in appearance, macroscopically and microscopically. The thymus and other glands were also normal.

SECTION OF DERMATOLOGY.

January the 17th, 1918.

Case of Keloid in a Girl, aged 7 Years.—Dr. S. E. Dore showed a girl who was said to have been bitten five weeks previously by a dog on the left cheek in several places. Three weeks later, when she was first seen by Dr. Dore, there were linear keloidal growths at the inner and outer canthus of the left eye and similar raised growths along the naso-labial fold, at the angle of the mouth, and in the centre of the cheek. Dr. Dore was inclined to apply radium at once, but said that Dr. Whitfield held that cases of this type which he regarded as one of hypertrophic scar tissue and not true keloid improved spontaneously, and should not be treated for several months.

February the 17th, 1918.

A Case of Linear Lichen Planus.—Dr. E. G. Graham Little showed a boy, aged 12 years, with a typical eruption of lichen planus, extending in a sharply demarcated line from a quarter to half an inch wide, stretching from the middle of the left buttock along the thigh and leg and passing behind the internal malleolus to terminate at the inner edge of the foot. Just below the buttock the line broadened out into a less well-defined patch which continued in the direction of the line, which was resumed again about the middle of the thigh. There were no lesions elsewhere.

Case for Diagnosis.—Dr. S. E. Dore showed a girl, aged 13 years, who had had a persistent excoriation of the toes and dorsal and plantar surfaces of the feet for five months. No treatment had been of any avail. No ringworm fungus had been found, and bacteriological examination showed staphylococci only. An artefarct and tuberculosis could be excluded and the condition did not seem to possess the characters of dermatitis repens. Both Dr. Gray and Dr. Graham Little were inclined to regard the case as one of ringworm.

Case for Diagnosis.—Dr. S. E. Dore also showed a girl, aged 7 years, with symmetrical scaly slightly raised patches which had been present for five years and had not yielded to any treatment. At first sight they resembled seborrhœic dermatitis, but the chronicity, the marked accentuation of the natural furrows producing the appearance of wrinkles, and the freckling and slight alteration of the texture of the skin negatived his diagnosis. Dr. Pernet had suggested that it might be an early stage of what he had called " atrophodermia reticulata faciei " (*v.* British Journal of Children's Diseases, 1917, xiv, p. 213), and would probably end in atrophy. At present, however, there was no atrophy, and although scales were present they were not like the adherent crust of lupus erythematosus, another diagnosis suggested. The condition had remained stationary and comparatively free from inflammation under treatment by soothing astringent lotions, such as lead and calamine, but any attempt to use resolvents such as sulphur or salicylic acid or tar was immediately followed by erythema and a tendency to spread.

Abstracts from Current Literature.

Diseases of the Blood.

Amino-acid nitrogen in the systemic blood of children ('*Journn. Amer. Med. Assoc.*,' 1916, LXVII, *p.* 262).—**C. J. V. Pettibone** and **F. W. Schlutz** have examined the blood of over sixty children, ten of whom were normal healthy subjects. They find that while the amounts of amino-acid nitrogen in the blood of children appear to be somewhat lower than the accepted values for adults, there were no consistent or characteristic variations of the amount in the specific diseases examined, and no increase or decrease in fever.

T. R. Whipham.

Brief report of 68 blood examinations in infancy (*'Arch. of Ped.,'* 1916, xxxiii, *p.* 757).—**H. M. McClanahan** and **A. A. Johnson** review the recent literature of the blood in infants, and record their studies on the leucocytes of 68 infants, aged from 3 weeks to 12 months. They found—(1) that the blood of the infant varies from that of the adult in the high proportion of the lymphocytes; (2) that there is a gradual but irregular increase in the polymorphonuclears during the first year of life.

J. D. Rolleston.

The cholesterin content of the blood in the exudative diathesis (*'La Pediatria,'* 1918, xxvi, *p.* 1).—**S. di Stefano** publishes the results of his investigations on 20 cases comprising Czerny's three types—the thin, the fat, and the thymico-lymphatic, and characterised by skin eruptions, catarrh of the mucous membranes, and hypertrophy of the lymphoid organs. In 4 cases the percentage of cholesterin was normal, according to the age, in another 4 there was a slight increase, and in 12 a true hypocholesteremia. There was no constant relation between the cholesterin content and the diathetic manifestations, nor any parallelism between its amount and the state of nutrition of the infant. The results obtained may be explained on the hypothesis of a hypocholesteræmia from increased elimination, for it is known that the liver is the organ of elimination of cholesterin, and that a primary hypertrophy of this organ is frequently met with in infants of this type. Since cholesterin is an important element in the defence of the organism, it may logically be assumed that its diminished percentage in the blood may be partly the cause of the frequency in these children of inflammatory processes in the skin, mucous membranes, and lymphoid organs.

Vincent Dickinson.

Eosinophilia in infants following the ingestion of a foreign protein (*'Arch of Ped.,'* 1916, xxxiii, *p.* 742).—**H. C. Berger** found that when a protein which the infant had never previously ingested was introduced into its diet there was usually an increase in the number of eosinophiles in the general circulation. As a rule, these appeared in from nine to twelve days after the ingestion of the protein, and very soon the eosinophile percentage returned to the normal.

J. D. Rolleston.

A case of anæmia of "pernicious type" in an infant (*'Med. Journ. of Australia,'* 1917, i, *p.* 549).—**B. Bradley.**—The patient was 11½ months of age, with a decrease of red cells and hæmoglobin in the blood, but they recovered with arsenic, which raised the colour index to 1·3. The number of leucocytes varied from 37,000 to 7000. The red cells were like those in pernicious anæmia. A large number of nucleated red cells were present. The child is still under treatment.

F. R. B. Atkinson.

Two cases of aplastic anæmia (*'Arch. de Méd. des Enf.,'* 1916, xix, *p.* 525).—**E. Gorter.**—Case 1: Boy, aged 6 years. He had always been pale, but the pallor became worse three weeks before death. Appetite bad, vomiting frequent. Petechiæ scattered all over body. Hb., 17 per cent.; red cells, 700,000, with anisocytosis, no poikilocytosis, no nucleated cells, and no polychromatophilia. Considerable leucopexia: 1600–1700 leucocytes, consisting of polymorphs, 11·5 per cent.; lymphocytes (large and small), 88 per cent.; large mononuclears, 0·5 per cent. Post-mortem petechiæ were found in the heart, lungs, stomach, intestine, and serous membranes. There was fatty degeneration of the various organs, especially of the myocardium and liver. The bone-marrow of the sternum, ribs, and humerus was yellow. Case 2: Boy, aged 3 years. Marked pallor for four months without apparent cause. Petechiæ all over body, high fever and convulsions. Hb., 25 per cent.; red cells, 1,250,000; leucocytes, 2700; no nucleated red cells. Slight enlargement of the lymphatic glands and of the liver and spleen. No autopsy. J. D. Rolleston.

Pernicious anæmia in a boy aged 8 years (*'Amer. Journ. Dis. Child.,'* 1917, xiv, *p.* 301).—**J. L. Morse** and **S. B. Wohlbach.**—When he was 5 years old he began to complain of feeling tired; he became very pale, and the skin took on a yellowish tinge. At 6½ years old the hæmoglobin was 28 per cent., the red cells numbered 1,600,000, and the leucocytes 8000. He remained in poor health and the next blood-count taken on admission to hospital when he was 8 years and 3 months old was as follows: Hæmoglobin, 15 per cent.; red cells, 860,000; leucocytes, 8000. Ten normoblasts and one megaloblast were seen to each 200 leucocytes. The temperature was between 100° and 101° F. On the day before his death, nine days later, the hæmoglobin was 10 per cent., the red cells 570,000, and the white cells 6200. No cause for the pernicious anæmia could be made out. The necropsy showed anæmia, fatty degeneration of the heart, liver, and kidneys, hypertrophy and dilatation of the heart, hyperplasia of the bone-marrow, and marked thickening of the calvarium due to a compensatory hyperplasia of the marrow of the diploë.

J. D. Rolleston.

A case of Hodgkin's disease involving the stomach (*'Cleveland Med. Journ.,'* 1917, xvi, *p.* 94).—**S. P. Reiman.**—A boy, aged 14 years, was admitted to hospital for pain in the left lower thoracic region of a fortnight's duration. No other symptoms were present. Examination showed slight enlargement of the submental gland and much enlargement of the posterior cervical glands. On admission the hæmoglobin was 70 per cent., the red cells 4,640,000, and the leucocytes 17,000. The hæmoglobin and red cells steadily diminished, the former falling through 60 per cent., 50 per cent., to 18 per cent., and the latter to 440,000. At first the red cells showed no morphological changes, but gradually more and more polychromatophilia, anisocytosis, and poikilocytosis were noted and nucleated cells were found. In all the counts there was an increase in the number of the platelets. The patient was treated with X rays and cacodylate of soda hypodermically, but the cervical glands enlarged steadily and an increasing area of dulness over the sternum and some abdominal pain with tenderness and free fluid set in. Death took place five months after admission. In addition to the usual findings in Hodgkin's disease the necropsy showed four very small punched-out ulcers at the cardiac end of the stomach. Microscopical examination showed that the type of involvement of the stomach was endothelial hyperplastic fibrosis and lymphocytic infiltration. In spite of definite ulceration there were no symptoms referable to the stomach. The patient is the youngest case of this type on record. J. D. Rolleston.

Leukæmia, with some observations on benzol (*'New York State Journ. Med.,'* 1917, xvii, *p.* 116).—**F. S. Winslow** and **W. D. Edwards** report a case in a boy, aged 14 years, treated with benzol. The initial dose of benzol was 10 minims per day, rapidly increased to 90 minims per day. During the use of benzol the following points were noted: (1) Benzol produced marked diminution of white cells; (2) it frequently produces marked irritation when given by the mouth, *per rectum*, subcutaneously or intravenously; (3) it is a dangerous drug, and its administration should be carefully watched for both the symptoms of benzol poisoning and for a too marked or too rapid reduction of the white cell-count; (4) it should not be used intravenously. J. Allan.

Acute myelogenous leukæmia in an infant (*'Amer. Journ. Dis. Child.,'* 1916, xi, *p.* 462).—**J. H. Mason Knox, junr.**, records a case in a female infant, 9 months old, the youngest on record. The rapid course of the disease—less than three weeks—is also noteworthy. There was no enlargement of the lymphatic glands or spleen, and no evidence of hæmorrhage or necrosis of the mucous membranes. The symptoms principally consisted of nausea and vomiting almost immediately after food, with frequent retchings between the feeds. There was moderate, continuous fever. The blood picture showed moderate secondary anæmia, no marked reduction in the number of the red cells, and very few nucleated reds. The leucocytes numbered 200,000, and the myelocytes 19·8 per cent.

J. D. Rolleston.

The leukotoxic factor in lymphatic leukæmia (*'Journ. Amer. Med Assoc.,'* 1917, lxviii, *p.* 954).—**M. Packard** and **R. Ottenberg** record a case of aleukæmic leukæmia, which finally developed into a typical chronic [? acute] lymphatic leukæmia in a boy, aged 3 years. For the first two weeks the white cells were not above 4200 per c.mm., but of these over 90 per cent. as a rule were large lymphocytes according to the table given, though the text describes a predominance of the small variety. Within a week the white cells rose to 60,000, and a fortnight later to 160,000, the large lymphocytes then numbering 99 per cent. At this time a large blood transfusion was performed, and it was found twenty-four hours later that the granular leucocytes which had been injected had entirely disappeared from the circulation, an occurrence which is the rule after transfusions in lymphatic leukæmia. There are two possible explanations of this phenomenon. Either the leucocytes were removed from the circulation and held in some internal organs, or they were destroyed. Which of these two possible explanations is the correct one can be settled only by extensive post-mortem study. But from the fact that in cases of lymphatic leukæmia in which there is almost a disappearance of polymorphonuclear leucocytes from the circulation, one does not find polymorphonuclears in any large numbers in the tissues or organs, it seems far more probable that the transfused leucocytes were very rapidly destroyed in the present case by some toxic agent. That this destruction of leucocytes was not due to any destruction of the transfused blood as a whole was shown by the absence of icterus or hæmoglobinuria after the transfusion, and by the pronounced rise in the total number of red cells on the day after transfusion, as well as by the fact that before transfusion very careful tests were made to preclude hæmolysis or agglutination between the blood of the donor and that of the patient. The patient died six days after the transfusion.

T. R. Whipham.

Prognosis and treatment of Banti's disease in children (*'Arch. of Ped.,'* 1916, xxiii, *p.* 801).—**E. E. Graham.**—Banti's disease tends to run a more acute course in children than in adults. If not treated, or only treated medicinally, it is almost invariably fatal. Under surgical treatment the prognosis is more favourable and depends on the duration of the disease when the spleen is removed. In children, splenectomy is even more advantageous than in adults, and complete recovery is the rule with the rapid disappearance of all symptoms. After the operation the blood-picture in most cases approaches normal, but in a few cases it may vary greatly, so that five years may elapse before the differential count becomes normal. Splenectomy is both useless and dangerous in cases where hæmoglobin is below 30 per cent. and the red cells are below 2,000,000. The operation should as a rule only be attempted when there is no œdema, no parenchymatous nephritis, no serious degenerative change in the liver, and while the patient is still able to go about. In 25 per cent. of cases of Banti's disease there is afterwards pain in the long bones, probably due to hyperplasia of the bone-marrow. There is always the danger of gastro-intestinal hæmorrhage or secondary infection owing to lowered power of resistance, especially during the first two weeks after operation. J. D. Rolleston.

Gaucher's disease (*'New York Med. Journ.,'* 1918, cvii, *p.* 118).—**M. S. Reuben** relates two cases of this disease, diagnosed during life, in children aged 2 and 4 years respectively. The first symptom noted was a painless enlargement of the spleen which became exceedingly large. The liver was slightly enlarged. There was a mild anemia and persistent leucopenia with a normal differential count. There was a yellowish or brownish bronzing of the skin affecting the neck, face, and limbs, slight hæmorrhages from the nose and gums, and, later, abdominal pains and increasing lassitude. The course of the disease is more rapid the earlier it appears, and apparently splenectomy does not cure. The section of the spleen shows firm, yellow-white, pyramidal areas consisting of dense connective tissue; the remainder of the spleen shows large, irregular spaces with walls of delicate connective tissue, containing large cells of varied shape and small nuclei and some giant cells. The Malpighian bodies are unchanged. The disease is familial and is diagnosed by this, with the progressive splenic enlargement, with leucopenia, and the absence of ætiological factors and of jaundice, ascites, urobilinuria, and fever. There is no other disease of infancy in which the spleen and liver may be so enormously enlarged.

J. Porter Parkinson.

Chloroma (*'Arch. of Ped.,'* 1916, xxxiii, *p.* 417).—**E. W. Gould** and **L. T. Le Wald** report two fatal cases in a boy, aged 5 years, and a girl, aged 3½ years, respectively, who presented the following characteristic features of the disease: Exophthalmos, swelling of the temporal and occipital regions, enlargement of the spleen and glands throughout the body, especially of the cervical region, and a severe and progressive anæmia, causing weakness, fever, and emaciation. The X rays showed a distinct separation of the cranial sutures, and the following changes in the long bones. The medullary portion showed a peculiar mottling due to rarefied areas, and the periosteum was distinctly raised from the surface of the bone over the greater portion of the shaft. No autopsy was allowed in either case. J. D. Rolleston.

Chloroma (*'Journ. Amer. Med. Assoc.,'* 1917, lxviii, *p.* 1900).—**G. B. Kramer** and **T. L. Birnberg** report a case of chloroma in a girl, aged 4 years, who died in less than three months from the onset of symptoms. In addition to the involvement of the cranium, deposits were found in all the thoracic and abdominal viscera and in the periosteum of the clavicles and ribs. T. R. Whipham.

Lympho-granulomatosis infantilis (*'La Pediatria,'* 1916, xxiv, *p.* 193).—**A. F. Canelli** describes the case of a boy, aged 5 years, with a syndrome of malignant lymphoma in whom the autopsy showed subacute tuberculosis of the spleen, miliary nodules in the lungs and liver, and atypical granules in various lymphatic glands. Microscopically, there was granulomatous hyperplasia of lymphoid type in various stages of development. Pathologically, the case was one of infantile granulomatosis of the lymphatic glands, with participation of other organs, notably the spleen and liver, of subacute course, definitely febrile and with severe anæmia. Points of special interest in the case were the absence of polynucleosis and eosinophilia, while there was a true lymphocytosis due probably to a peculiar condition of the lymphoid system. The liver was much enlarged, partly from fatty and partly from granulomatous infiltration. The spleen was enlarged and hard. There were no cutaneous manifestations.

VINCENT DICKINSON.

The cause of sudden death in status lymphaticus (*'Amer. Journ. Dis. Child.,'* 1917, xiv, *p.* 463).—**D. Symmers** states that sudden death in status lymphaticus may be brought about in, at least, two different ways. The first and most frequent cause is of the nature of an anaphylactic reaction due to susitisation of the body by a specific nucleoprotein formed in the lymph-nodes as the result of necrosis of numbers of germinal follicles. Before the so-called anaphylactic incubation period has expired, the tissues are again subjected to the action of the same protein formed in the same type of tissue in response to an apparently trivial injury, and in this way the anaphylactic reaction is completed. The second cause of sudden death is the spontaneous rupture of a hypoplastic cerebral vessel, or rupture following apparently trivial injury, the deficiency in the vessel wall being most noticeable in the muscular coat. J. D. ROLLESTON

On the occurrence of purpura in the serum disease (*'Med. Klinik,* 1917, xiii, *p.* 1041).—**H. Widmer** records several cases illustrating the occurrence of purpura after injection of antitoxin for diphtheria, and comes to the following conclusions: (1) A well-marked purpura simplex may accompany the ordinary symptoms of anaphylactic shock. (2) The typical serum disease is occasionally associated with purpura, or purpura may be the only manifestation of the serum disease. (3) On application of a rubber band, skin hæmorrhages may occur, which are strictly localised to the area of the serum eruption. J. D. ROLLESTON.

A case of purpura fulminans (*'Arch. of Ped.,'* 1916, xxxiii, *p.* 844).—**W. M. Donald.**—A previously healthy boy, aged 4 years, had a moderately severe attack of bacillary dysentery on August 7, but recovered by August 15. On September 27 he began to suffer from malaise, and a few ecchymoses appeared on the body and lower limbs. On October 4 an incisor root was extracted and the gum continued to ooze and the nose began to bleed. The following day the temperature was 104° F., the pulse 130, and the body showed numerous new ecchymoses. Punctate petechiæ were scattered over the lower limbs. Some small blood-clots were found in the fæces, but the urine remained clear. The blood-picture and absence of large lymph glands negatived lymphatic leukæmia. Death, preceded by delirium, took place seven days later. No autopsy. J. D. ROLLESTON.

Two cases of purpura fulminans (*'Thèses de Paris,'* 1915–16, No. 46).—**J. C. M. Péneaud.**—CASE 1: A boy, aged 4 years, who had had measles complicated by otitis six months previously, developed extensive purpura of both legs and died within twenty-four hours. There was a leucocytosis of 32,800. The clot was non-retractile. There were no hæmorrhages from the mucosæ. Post-mortem there were hæmorrhages in both suprarenals, an infarct in the right kidney, and five hæmorrhages in the lungs. CASE 2: A boy, aged 3 years, who had had a sore throat one month previously and had been in poor health since, had an attack of chickenpox. Eight days later, extensive purpura appeared on the right thigh and leg and left upper limb. The next day the whole of the left forearm and hand presented the appearance of purpura fulminans. Gangrene set in on the back of the hand, but recovery took place. The blood showed a leucocytosis of 16,500, with a myeloid reaction (neutrophile myelocytes, 8 per cent.; basophile myelocytes, 2·5 per cent.; eosinophile myelocytes, 0). J. D. ROLLESTON.

Effect of ultraviolet rays in Leishmaniosis (*'La Pediatria,'* 1916, XXIV, *p.* 147).—**F. Porcelli-Titone,** experimenting on the micro-organism of Leishmaniosis, found that cultural forms, both in human and canine cases, exposed to ultraviolet rays remained alive and mobile, but lost the power of reproduction. After prolonged exposure they lost motility and formed granular masses previous to disintegration. The experiments show that the anti-reproductive action of the rays, which has been shown to be very marked on bacteria, has a similar effect on protozoa.

VINCENT DICKINSON.

Diseases of Circulatory System.

Some varieties of congenital heart disease (*'Glasg. Med. Journ.,'* 1916, II, *pp.* 1, 84, 140).—**L. Findlay** and **W. B. Martin** point out that in congenital heart disease physical signs and symptoms are notoriously misleading, and not infrequently a cardiac defect unsuspected during life is disclosed at autopsy, or the true nature of a suspected lesion may only be revealed on the post-mortem table. A partial explanation for this difficulty is the complex nature of the malformation usually present. The signs and symptoms, too, are not always commensurate with the severity of the defect. The varieties of congenital heart disease dealt with are: (1) Patent foramen ovale (female, aged 6 weeks); (2) patent interventricular septum (female, aged 3 months); (3) congenital stenosis of pulmonary tract with atresia of orifice-septal defects and patent ductus arteriosus (male, aged 3 months); (4) congenital stenosis of pulmonary tract, with septal defects (female, aged 2 months); and (5) patent ductus arteriosus (female, aged 1 month). In each case there are given the clinical history, full details of the post-mortem examination, and references to other recorded cases. Special points of interest in Case 1 were the extreme degree of cyanosis and the loud V.S. murmur. An interesting feature in Case 4 was the multiplicity of lesions and consequent opportunities for the production of fluid veins, and yet the absence of any murmur for long periods. This series of cases is of interest as emphasising the difficulty of diagnosis; as demonstrating how a slight cardiac anomaly, usually latent, may become manifest through the intervention of a pulmonary complication; and as substantiating the idea that congenital syphilis may play a part in the ætiology of cardiac malformations.

J. ALLAN.

Congenital endocarditis with acute vegetative inflammation of the pulmonary artery and valve (*'Amer. Journ. Dis. Child.,'* 1917, XIII, *p.* 426).—**H. E. Tuley** and **J. W. Moore.**—A boy, aged 13 years, admitted to an orphan home on February, 1912, though certified to be normal in every respect, presented clubbing of the fingers, bulging of the chest, slow mental development, and cyanosis. A systolic thrill could be felt throughout the precardial area. A loud systolic murmur and weaker distolic murmur were heard over the entire chest, anteriorly, being more intense over the second space just to the left of the sternum. A distinct systolic bruit and a low diastolic murmur were heard over a pulsating mass behind the suprasternal notch. Three years after admission there was little development either mentally or physically. In June, 1916, death took place from pulmonary tuberculosis. Necropsy: The heart showed acute vegetations of pneumococcal origin springing from the pulmonary valves and continuous with those projecting from the wall of the pulmonary artery. The pulmonary valves also showed diffuse nodular sclerosis. The remaining valves likewise showed a diffuse sclerosis, whereas the tricuspid and mitral valves also bore the nodular type. The foramen ovale was patent. The right auricle and ventricle were much hypertrophied and dilated, whereas the left auricle and ventricle were apparently normal. The aorta was entirely negative.

J. D. Rolleston.

Congenital atresia of the right auriculo-ventricular orifice with complete absence of tricuspid valves (*Amer. Journn. Dis. Child.*,' 1917, XIII, *p.* 167).—**J. H. Hess** records a case in a male infant, aged 8½ months, who had been ailing from birth with dyspnœa and cyanosis. The fingers and toes were clubbed, the heart was enlarged, and a loud systolic murmur was heard at the base. At the necropsy practically the whole base of the heart was composed of the right auricle, the right ventricle being only a small cavity which appeared as an appendage to the right auricle The body of the heart was composed of the left ventricle, which was greatly hypertrophied, as was also the left auricle. The right auricle was enormously dilated. The tricuspid orifice and valve were absent. The interventricular septum was perforated at the upper part of the left ventricle. The foramen ovale was patent. The ductus arteriosus was small but patent. Hess has found only eight, Oller seven uncomplicated cases of congenital tricuspid atresia—a record. J. D. Rolleston.

Congenital dextrocardia with patent foramen ovale ('*Amer. Journ. Dis. Child.*,' 1916, XII, *p.* 233).—**H. J. Morgan** alludes to the paper by Moffett and Neuhof (*v.* British Journal of Children's Diseases, 1916, XIII, p. 90), and records a case in a female infant, who died at the age of 9 months, after two severe convulsions. The symptoms were dyspnœa and cyanosis. The apex of the heart was felt on the right side 6 cm. to the right of the midsternal line in the fourth interspace. The left border was 1 cm. to the left of the midsternal line at the fourth interspace, and the upper border was at the second right interspace. A rough systolic murmur was heard, loudest at the apex, on one occasion only. The liver and spleen were normal in position. There were no bony changes or clubbing of the fingers, and no other abnormalities were detected. Necropsy: The heart was globular in shape, the walls of the left ventricle very thick, most of the right rather thin with a muscular defect, which showed as a dimple on the external surface, not extending through the wall. The heart-valves were normal except for the patent foramen ovale. There was no interventricular defect. J. D. Rolleston.

Abnormal viscera in a child (*'Dub. Journ. Med. Sci.,'* 1916, I, *p.* 48).—**R. M. Bronte,** at a meeting of the Royal Academy of Medicine in Ireland, Section of Pathology, showed the viscera of a young girl showing congenital absence of the left lung with displacement of the heart leading to a hyaline formation of the pericardium at the point of contact of the apex of the heart. The intestine was gangrenous, although no thrombosis or other impediment to vascular flow was to be found. Both kidneys showed connective-tissue proliferation and parenchymatous degeneration and the liver was sclerosed and fatty. J. ALLAN.

Complete transposition of viscera (*'Med. Record,'* 1916, xc, *p.* 1027).—**H. T. Hartz** reports two cases in boys aged 12 and 13 years suffering from tonsillitis and pleurisy respectively, in whom the heart was completely transposed to the right side of the body with the apex in the right mid-clavicular line. The liver dulness was outlined in the left side of the body, and the stomach was transposed to the right of the mid-line. Seventy-nine cases of complete transposition of the viscera were collected by Gruber in 1865. J. D. ROLLESTON.

Electrocardiographic studies of congenital heart disease (*'Amer. Journ. Dis. Child.,'* 1916, XII, *p.* 30).—**H. McCulloch** reports twelve cases in patients aged from 3 weeks to 32 years, including four of pulmonary stenosis, five of defects of the interauricular and interventricular septa, two of ductus arteriosus, and one of right ventricular atrophy. Congenital malformations of the heart do not produce a distinct electrocardiogram, but the type of curve will depend on the secondary effects of the heart chambers. The effect is chiefly on the right side of the heart, and malformations associated with a secondary relative ventricular hypertrophy produce electrocardiograms with deep *S* waves in head *I* and high *R* waves in head *III*. Malformations not producing right ventricular hypertrophy do not cause a characteristic change in the electrocardiogram.

J. D. ROLLESTON.

Three cases of congenital cyanosis affecting all children in a family and a new method of diagnosis of congenital heart lesions (*'Am. Journ. Dis. Child.,'* 1917, XIII, *p.* 1).—**J. H. Hess** and **R. G. Pearce.**—The children were boys, aged 11, 10, and 6 years. All showed an excellent mental development, and the two younger ones good physical development. The cyanosis of the skin and mucosæ was constant, and increased under various conditions, epecially during physical exertion or inflammatory conditions of the respiratory tract. There was no clubbing of the fingers. All showed cardiac enlargement but no abnormal heart sounds. Electrocardiograms did not vary much from the normal, but indicated a predominance of right ventricular activity. Except for a high hæmoglobin content, the blood was normal. Examination of the respiratory exchanges showed that the cyanosis was not due to a faulty gas exchange of the blood as it passed through the lungs, but rather to a reduction of the amount of blood reaching the left ventricle from the pulmonary circulation. The diagnosis of a septal or ductus defect was therefore rendered probable. J. D. ROLLESTON.

Heart disease in infancy and childhood (*'Arch. of Ped.,'* 1916, XXXIII, *p.* 909).—**A. L. Goodman.**—Twenty-five per cent. of the admissions to the Children's Division of the "A. Jacobi Department" of the German Hospital are cases of heart disease. Of the 25 per cent., 20 per cent. are due to rheumatism. A little over 4 per cent. result from various infectious diseases, and the remaining less than 1 per cent. are congenital heart trouble. The most common form of organic heart disease found was mitral insufficiency with accompanying double mitral murmur. A murmur, however, is not always present—*e. g.* when the deposits take place at the insertion and not at the free margin of the valve. J. D. Rolleston.

A clinical classification of heart disease (*'Arch. of Ped.,'* 1917, xxxix, p. 308).—**W. P. StLawrence.**—The following classification has been adopted for over a year in the children's cardiac class at St. Luke's Hospital, New York. Potential cardiacs: All cases of rheumatism and allied rheumatic infection—*e. g.* chorea and tonsillitis. First degree: Valvular lesions without demonstrable evidence of muscular involvement; no symptoms, past or present, referable to the heart. Second degree: Valvular lesions with muscular involvement and mild degree of cardiac distress. Third degree: Valvular lesions with marked muscular involvement and well-defined symptoms of cardiac decomposition. J. D. Rolleston.

Cardiac disease and the cardiac clinic (*'Arch. of Ped.,'* 1917, xxxiv, *p.* 269).—**J. S. Ferguson.**—Examination of a large number of school children showed that nearly 7 per cent. were affected with organic or functional cardiac murmurs. Ferguson says that it is high time that every endocarditis, not only ulcerative endocarditis, should be regarded as an infection arising from a local source. A possible source can usually be found in or about the mouth cavity and its sinuses, *e. g.* in dental caries, pyorrhœa, the tonsils, or ears, though there may occasionally be purulent processes elsewhere. J. D. Rolleston.

A case of wide propagation of a cardiac murmur (*'Med. Journ. of Austral.,'* 1917, ii, *p.* 8).—**F. G. Griffiths.**—The child was aged 6 years, with a loud systolic murmur heard all over the chest, back and front, down the back, over the loins, and even to the sacrum. At the inferior end of the scapula it was accompanied by a diastolic murmur. The condition arose after a mild attack of rheumatic fever. F. R. B. Atkinson.

Acute infective endocarditis due to streptococcus attenuans (*'Amer. Journ. Dis. Child.,'* 1915, ix, *p.* 33).—**F. Huber** records a fatal case in a female infant, aged 1 year. The disease lasted about a fortnight, and was characterised by high and irregular temperature, large hæmorrhages on the skin and bloody stools and vomit. The necropsy showed vegetative endocarditis of the mitral valve and infarcts in the spleen and kidneys.
J. D. Rolleston.

Case of pericarditis complicating pneumonia in an infant (*'Med. Journ. of Australia,'* 1917, ii, *p.* 227).—**E. A. Tivey.**—This very rare condition was noted in a female child aged 19 months. The friction sound was quite distinct at both base and apex of the heart, and death occurred nine hours after it was first discovered. The acute symptoms of a left-sided pneumonia had almost abated twenty-four hours after their onset.
F. R. B. Atkinson.

Mitral stenosis in young children (*'Arch. of Ped.,'* 1916, xxxiii, *p.* 101).—**M. H. Bass** records two cases in boys, aged 10 and 7 years respectively. His conclusions are as follows: (1) In mitral stenosis in children, especially without evidence of insufficiency, syphilis should be thought of and a Wassermann reaction done. (2) Cardiac disease, especially valvular stenosis, exerts considerable influence on the patient's growth (*v.* Parkes Weber, British Journal of Children's Diseases, 1913, x, p. 203). (3) Study of the literature leads to the following conclusions: (*a*) Mitral stenosis has been observed at autopsy in infants. (*b*) It has been observed in children over 5 years old, in whom there was no apparent ætiological factor present. (*c*) No case of mitral stenosis has been reported in children between infancy and 5 years. (*d*) The condition described by Duroziez as pure mitral stenosis should not be confused with the rare congenital lesion in infants. J. D. Rolleston.

Left recurrent paralysis and mitral disease ('*Arch. de Méd. des Enf.*,' 1918, xxi, *p.* 77).—**A. Carrau** describes a case of six months' duration in a girl aged 16 years, the earliest on record. The time of the appearance of the aphonia in relation to the cardiac disease is noteworthy. In some cases the recurrent paralysis occurs during an attack of failing compensation, but in the present case the patient had already had such attacks without any effect on her voice, and it was not until six months after the termination of an attack that the aphonia suddenly appeared. Carrau gives the following explanation of the paralysis: The dilated left ventricle compresses and deforms the pulmonary artery, which in its turn presses upon the recurrent laryngeal nerve giving rise to the neuritis, which is the origin of the immobility of the vocal cord and prolonged dysphonia.

J. D. Rolleston.

The elucidation of some arrhythmias of the heart in children by means of the electrocardiograph ('*Arch. of Ped.*,' 1917, xxxiv, *p.* 128).—**R. H. Halsey.**—The electrocardiograph is the only instrument which, regardless of the physical form of the patient, can tell the position or alterations in cardiac position; the preponderance in mass of one chamber over the other, the location of lesions; the source of the impulses producing contractions; that the control is normal or abnormal, the time and sequence of chamber contraction; the explanation of some physical signs; the functional efficiency of the auriculo-ventricular conduction; differentiate between heart rates of varying origin; and record precisely the effect of drugs on the cardiac mechanism. Eleven illustrative electrocardians are reproduced. J. D. Rolleston.

Paroxysmal tachycardia in childhood ('*Amer. Journ. Dis. Child.*,' 1917, xiv, *p.* 287).—**N. W. Brown** records a case in a boy, aged 3½ years, who had had attacks of rapid heart action since he was twelve months old. Predisposing factors were gastro-intestinal disorders and malnutrition during infancy. The paroxysms usually occurred every three or four days, and lasted from two to thirty-six hours. The pulse, which was normally 90 to 112, rose during the paroxysms to 180 or 200. The paroxysms began and ended abruptly. They were accompanied by slight pallor, lessened activity, and jugular pulsation. They had recently been less frequent and severe. Electrocardians showed inverted *P* with beginning of *T* wave and auricular tachycardia. The writer has collected nine other cases of paroxysmal tachycardia in children under 10, including those of Hutchison and Parkinson (*v.* British Journal of Children's Diseases, 1914, xi, p. 241), and Kidd (*ibid.*, p. 264). J. D. Rolleston.

Paroxysmal tachycardia in children (*'Amer. Journ. Med. Soc.,'* 1917, CLIV, *p.* 834).—**H. Koplik** records three personal cases. Case 1: Male, aged 22 months, the youngest on record. The primary attack occurred a fortnight after an attack of influenza, the symptoms being those of an acute breakdown of the heart with exceedingly rapid rate and signs of cardiac weakness, viz. general œdema, cyanosis, swelling of liver and spleen and general dyspnœa. Improvement and apparent cure took place, but regular attacks of paroxysmal tachycardia of varying duration ensued. The cyanosis and general œdema did not reappear. During the paroxysms the child was not uncomfortable. He would at times sit and play with a pulse of 204, or be quiet and pale, with eyelids slightly puffy and say he felt tired. A tachycardia was established on some form of infective myocarditis. Case 2: Girl, aged 3 years. History of attacks of palpitation for three months. Very few symptoms objectively or subjectively, though there were nearly 250 ventricular beats per minute. Case 3: Boy, aged 10 years. The paroxysms varied in duration from three minutes to forty-eight hours. During an attack the heart was very irregular at times, and there were periods of irregular flutter with heart-block. Between the attacks the rhythm of the heart might also be irregular and show periods of block even when digitalis had not been given. The cardiograms showed that cases 1 and 3 were examples of auricular tachycardia. J. D. ROLLESTON.

A case of bradycardia (*'Med. Press,'* 1916, I, *p.* 597).—**F. Spicer,** at a meeting of the British Oto-Laryngological Society, showed a boy, aged 15 years, who suffered from bradycardia or slow action of the heart. On arranging for a nasal operation it was stated that there was something wrong with the heart, and on communicating with the physician who had treated him it was learned that bradycardia existed and rendered an operation dangerous. The physician treated the patient for six months, and then saw the anæsthetist before the anæsthetic was given. The operation was carried out at a nursing home, every precaution having been taken to be ready for any emergency which might arise. The turbinals were removed, and there was not much bleeding. Suddenly, at the end of the operation, the heart and breathing stopped, and it was thought the patient was dead. Artificial respiration, however, revived him. J. ALLAN.

Ascitic hepato-myocardiac syndrome (*'La Pediatria,'* 1917, XXV, *p.* 401).—**C. Martelli** describes this case of a girl, aged 2½ years, with enormous ascites, large liver with intense hyperæmia from stasis, and cardiac insufficiency from myocarditis and fatty degeneration. He considers that there are met with in children stupendous ascitic syndromes, unaccompanied at first by peripheral œdema, recalling cases of tuberculous peritonitis or hepatic cirrhosis, to the detriment of an accurate diagnosis and successful treatment. These syndromes are caused by a congenitally large liver of plethoro-lymphatic type, aggravated by myocardiac debility, and are related to the cardio-cirrhosis of Hutinel and the hepatic pericardial pseudo-cirrhosis of Pick. Exact and early diagnosis is of great practical value, since treatment directed to overcome the hepatic engorgement and relieve the heart may prolong life. VINCENT DICKINSON.

Two cases of congenital persistent acroasphyxia in infants (*'Amer. Journ. Med. Sci.,'* 1917, CLIV, *p.* 500).—**N. Toomey** reports the youngest examples hitherto recorded of the disease first described by

Nothnagel in 1867, since when about thirty-five cases have been published. Case 1: Negress, aged 9 months. The condition was first noted in the second week of life, and gradually became worse. The lesions developed synchronously in hands and feet, which showed marked cyanosis and coldness of the skin not affected by inclement weather. The cyanosis was equal on the two sides, and was uniformly distributed from the finger-tips to the carpal furrow, and in the feet over the plantar surface to the malleoli, but only half way up the dorsal surface of the feet. Case 2: White infant, aged 7 months. Cyanosis of hands and feet was first noticed on the second day after birth. There were distinct remissions in the asphyxia. The lesions were symmetrically distributed and of equal intensity over both hands and feet. The asphyxia involved the whole hand to the wrist at the level of the styloid processes. The feet were also completely involved.

J. D. Rolleston.

Obliteration of the inferior vena cava in a boy aged 12 years (*'Arch. de Méd. des Enf.,'* 1917, xx, *p.* 418).—**J. Comby.**—The patient was admitted to hospital for erysipelas of the lower limbs with cough and progressive dyspnœa. The temperature had been high for some days. The erysipelas subsided in ten days, but the temperature kept high and the lower limbs resembled those of a case of elephantiasis. The abdomen was enlarged, and showed a marked collateral circulation. Death, preceded by hæmatemesis and intestinal hæmorrhage, took place after an illness of about six months. At the necropsy complete cardiac symptoms were found. The inferior vena cava was surrounded and obliterated by fibrous tissue. The liver was large and fatty. There was considerable ascites. No tuberculous lesions were found, but pulmonary œdema hydrothorax and pleural adhesions were present.

J. D. Rolleston

Relapsing phlebitis of the tributaries of the inferior vena cava (*'Arch. de Méd. des Enf.,'* 1916, xix, *p.* 636).—**A. Roux** records a case in a girl, in whom phlebitis of the inferior vena cava and portal vein occurred on several occasions, viz. after varicella and after scarlet fever, at the age of 5½ years, and after a probable attack of typhoid fever at the age of 12 years. The symptoms were prominence of the cutaneous veins of the trunk and thighs, enlargement and tenderness of the liver and spleen, albuminuria, œdema of the legs, and fever. At the age of 13 she had a fresh attack of fever, œdema, and albuminuria, and a similar attack the following year. The occurrence of puberty did not improve the venous circulation; though there was some diminution of the venous network on the trunk, the state of the legs remained the same, and small varicose ulcers appeared which took a long time to heal. At the age of 15 two attacks of intestinal hæmorrhage occurred. Treatment of all kinds has proved unavailing, and the child has become a chronic invalid.

J. D. Rolleston.

Congenital obliteration of the aorta (*'Amer. Journ. Dis. Child.,* 1916, xii, *p.* 606).—**H. Gauss** records a case in an infant boy, apparently normal at birth, who died suddenly in the third day of life. The necropsy showed atresia of the aorta at the orifice; total absence of the aortic valves; hypertrophy of the left ventricular wall; dilatation of left ventricle; considerable enlargement of pulmonary artery; common opening of the coronary arteries; partial apneumatosis of the lungs; multiple hæmorrhages in epicranium, pericardium, liver, kidneys, thymus, and suprarenals, hydrocele, and adherent umbilical cord.

J. D. Rolleston.

Typhoid gangrene in a child (*'Paris Méd.,'* 1917, VII, *p.* 402).—**A. Vinache.**—Three weeks after the onset of typhoid fever, when convalescence seemed to be established, a girl, aged 4 years, suddenly developed pain in the left leg, which became pale, cold, and insensitive. In the next few days gangrene developed. Amputation was performed at the seat of election and recovery took place. Hereditary changes in the vessels, due partly to paternal and grandpaternal alcoholism, are held responsible for the condition.
J. D. ROLLESTON.

Diseases of Urogenital System.

The bacteriology of the urine in healthy children and those suffering from extra-urinary infections (*'Amer. Journ. Dis. Child.,'* 1916, XII, *p.* 345).—**C. Beeler** and **H. F. Helmholtz.**—In 118 specimens of carefully catherised urine from 61 girls, 61 were sterile and 57 contained bacteria. Of those from normal infants, 13 were sterile and 11 contained bacteria. Of those of extra-urinary infections in patients under 2 years, none were sterile and all contained organisms. In those from girls over 2 years, 38 were sterile and 22 contained bacteria. The number of bacteria was considerably larger in the infants, probably because the urethral orifice could be cleansed more easily in the older children. The bacteria were practically the same in both, Gram-positive cocci and diphtheroid organisms prevailing. The writers' conclusions are as follows: (1) Organisms of the coli group are not normal inhabitants of the female urethra; (2) in extra-urinary infections in the first two years of life the coli group of bacilli are frequently found in the urethra; (3) in girls over 2 years the urine is almost free of organisms, and in the writers' series entirely free of bacilli of the coli group.
J. D. ROLLESTON.

The non-protein nitrogenous constituents of the blood and the phenolsulphonephthalein test in children (*'Amer. Journ. Dis. Child.,'* 1916, XI, *p.* 432).—**J. S. Leopold** and **A. Bernhard.**—Examination of the blood of 50 children free from renal disease gave the following results: The total non-protein nitrogen varied between 19 and 49 mgrm. per 100 c.c. of blood, the average being 28 mgrm.; the urea nitrogen varied between 8 and 21 mgrm., the average being 12 mgrm.; the uric acid varied between 0·6 and 3·2 mgrm., the average being 1·8 mgrm.; the creatinin varied between 0·5 and 4 mgrm., the average being 1·5 mgrm.; and the phenolsulphonephthalein varied between 50 and 96 per cent., the average being 70 per cent. Sixteen cases with renal involvement were also examined, with the following results: (1) In acute nephritis the non-protein nitrogen constituents were found within normal limits, the phenolsulphonephthalein excretion was diminished; (2) in chronic nephritis the non-protein nitrogen constituents were usually increased, while the phenolsulphonephthalein excretion was diminished; (3) in passive congestion the non-protein constituents were normal, while the phenolsulphonephthalein was diminished; (4) in one case of sarcoma of the kidney, with normal urinary findings, the non-protein constituents were normal, except uric acid, which was slightly increased; the phenolsulphonephthalein excretion was diminished. The writers' conclusions are as follows: (1) Figures for the non-protein constituents of the blood and the phenolsulphonephthalein test excretion of children free from renal disease are practically identical with those obtained from adults; (2) the changes in these figures in children the subjects of renal disease correspond with the changes observed in adults; (3) the importance of the tests for diagnosis and prognosis amply demonstrated in adults will probably hold true for children. J. D. Rolleston.

Indicanuria in children (*'New York State Journ. Med.,'* 1918, xviii, *p.* 22).—**W. J. Schuyler** remarks on the frequency with which the finding of so-called indican in the urine seems to be associated with many of the ills and maladies of the growing child. The two chief preliminary conditions favourable to the development of indicanuria seem to be the ingestion of food proteids, especially that found in meat, in excess of the body requirement, and the presence in the intestinal tract of germ life which has the effect of producing putrefactive change in this proteid content. Children who show a more or less constant tendency to indicanuria are very seldom entirely well. They often seem nervously irritable and prone to outbursts of temper. They are often fickle in appetite, and crave foods that belong properly only to adults. The circulation never seems quite free or perfect, for the pink colour on pressure over the finger-nail will be found slow in returning. These children often suffer from cold extremities, there may be slight anæmia, and the blood-pressure is low. They are constantly taking cold, with long-continued nasal hyper-secretion or intractable nasal or bronchial cough. They often complain of rheumatoid pain and soreness.

J. Allan.

Non-parasitic chyluria and chronic nephritis in a child (*'Amer. Journ. Dis. Child.,'* 1916, xi, *p.* 455).—**A. Hymanson** reports a fatal case in a girl, aged 8 years, in whom the chyluria and nephritis followed measles at the age of three. Ascites was found in the fourth year, but paracentesis was forbidden by the parents. On prolonged treatment with tonics, creosote, and good nourishment, the ascites almost disappeared in eighteen months. At the age of six the child had frequent micturition, and the urine was milky and contained fat globules. No filaria and no blood was present. The necropsy showed chronic diffuse nephritis, chronic congestion of the lungs, hypertrophy and dilatation of the left ventricle, splenic hyperplasia with a fresh infarct, parenchymatous degeneration of the liver, and hypertrophy and dilatation of the bladder and ureters. Non-parasitic chyluria is excessively rare in childhood. Only five other cases have been recorded.

J. D. Rolleston.

Hypertension in nephritis in childhood (*'Amer. Journ. Dis. Child.,'* 1917, xiii, *p.* 354).—**H. K. Berkley** and **J. M. Lee** studied the blood-pressure in ninety-three cases of nephritis in children between the ages of 2 and 12 years, and came to the following conclusions: (1) The blood-pressure is raised in both the acute and chronic nephritis of childhood, and occasionally to a marked degree (250 mm. Hg. in a boy aged 10 years). (2) Systolic and diastolic pressures are not increased to the same degree, the former averaging about 20 mm. and the latter about 10 mm. above normal. (3) The pulse-pressure is increased, but this is not a constant factor and varies between the wide limits of 0·1 and 21. (4) The blood-pressure in chronic nephritis shows no constant elevation above that of acute nephritis. (5) The blood-pressure may, in rare instances, be of prognostic value. (6) No relation has been found to exist between the blood-pressure and the urinary findings. (7) Patients with marked œdema showed a slightly higher average blood-pressure than those with little or none. (8) Albumin-uric retinitis is probably not common even in cases showing a marked increase in blood-pressure. The writers refer to the recent literature, including the papers of Rolleston (*v.* British Journal of Children's Diseases, 1911, viii, *p.* 433), Kaupe and Wolfensohn-Kriss (*ibid.*, *p.* 469), Mello Leitão, Gordon (*ibid.*, *p.* 470), and Judson and Nicholson (*ibid.*, 1915, xii, *p.* 180). J. D. Rolleston.

Renal lithiasis in childhood ('*Brazil-Medico,*' 1917, xxxi, p. 365).—**N. Gurgel.**—A boy, aged 6 years, had been subject for the last three years to attacks of colic. The absence of jaundice, fever, nausea, and vomiting, and the course of the disease excluded hepatic or pancreatic lithiasis. The X rays showed two calculi in the pelvis of the left kidney, which were successfully removed. On examination they were found to consist of ammonio-magnesium phosphate and calcium oxalate There was no hæmaturia or pyrexia, and even the albuminuria was not constant or present in large amount. J. D. Rolleston.

Pyelitis of infancy—mode of infection ('*Amer. Journ. Dis. Child.,*' 1916, xii, p. 235).—**R. M. Smith** thinks that pyelitis is always a blood infection, and that bacteria frequently gain entrance to the blood by the lymphatics. In uncomplicated cases the lesion remains localised in the renal pelvis, where the organisms are excreted. Secondary infection of the kidney substance may occur by lymphatic channels from the pelvis. The source of infection in most cases, including males and females, is the gastro-intestinal tract. Some cases may arise from infection in the skin, teeth, or tonsils or some local septic process. Many cases in females arise from bacteria entering the blood *viâ* the lymphatics from the urethra, vulva, or vagina. Smith made seventy-one cultures from the vagina, vulva, or urethra of forty infants, from birth upwards, and young children. All the urethral and vulvar cultures were positive. The first organisms to appear were strepto- and staphylococci. *B. coli* were found in vaginal cultures as early as the fifth day. J. D. Rolleston.

Focal lesions produced in the rabbit by colon bacilli isolated from pyelo-cystitis cases ('*Amer. Journ. Dis. Child.,*' 1917, xiv, *p.* 5).—**H. F. Helmholtz** and **C. Beeler** carried out two series of experiments. Series 1 consisted of eight different strains of *B. coli* injected intravenously into sixty-six rabbits. Series 2 consisted of a mixture of *B. coli* and the pneumococcus injected intravenously into eleven rabbits. In Series 1 only eight, about 12 per cent., showed lesions that could be attributed to *B. coli*. None of the eight organisms used showed a special tendency to localise in the kidney, and when it did localise the focal lesions were just as likely to be in the other organs, especially the gastro-intestinal tract. The most characteristic lesion of *B. coli* seemed to be œdematous infiltration of the cæcum. In about 90 per cent. of instances the rabbit can excrete *B. coli* through the kidney with impunity. In Series 2, however, 60 per cent. of the rabbits showed definite lesions in the kidney. J. D. Rolleston.

Colon bacillus pyelitis considered with reference to cases in boy subjects ('*Amer. Journ. Med. Sci.,*' 1917, cliv, *p.* 707).—**G. W. Graves.**—Pyelitis in boys due to *B. coli,* though far more infrequent than in girls, is possibly even more important from the individual standpoint. In the male the possibility of extension of infection through the lumen of the urethra may be excluded, and in all cases the intestine should be regarded as the potential source of the disease. The possibility of some systemic manifestations should be recognised, *e. g.* enlarged lymph glands, pronounced nervous symptoms, even meningeal in type, pains in the muscles, stiffness in the joints, and cough. The best routine treatment is the administration of sufficient alkali to make and keep the urine alkaline. In all obstinate cases autogenous vaccines should be used. Three illustrative cases are recorded in boys aged 3, 5, and 10 years respectively. J. D. ROLLESTON.

Sarcoma of the kidney treated by the Roentgen ray (‘*Amer. Journ. Dis. Child.*,’ 1916, XII, *p.* 328).—**A. Friedlander** reports a case in a boy, aged 4 years, in whom the growth was so large that no surgeon would remove it. Twenty treatments were given with the Coolidge tube at intervals of about a week with considerable improvement. The tumours became much smaller in size, and the child gained in weight and strength. A month before death, which was due to measles, the tumour began to increase in size again. The necropsy showed sarcoma of the left kidney, with small metastases in the lungs and liver. Sections showed the most widespread and generally diffuse necrotic changes with no evidence of inflammatory reaction.

J. D. ROLLESTON.

Adeno-sarcoma of the right kidney in a girl, aged 6 years; removal; recovery (‘*Arch. de Méd. des Enf.*,’ 1917, XX, *p.* 257).—**E. Kirmisson** and **Trétiakoff.**—Eighteen months previously the child had first begun to suffer from pain in the right side of the abdomen, and from that time an increase in size of the abdomen had been noticed. For a long period the tumour developed slowly, and it was only during the last weeks which preceded the operation that its rapid course and enormous development indicated that it was undergoing a sarcomatous change. The urine did not contain any blood or albumin. Six weeks after the operation the general condition was excellent, the abdomen was supple, and there was no glandular enlargement. J. D. ROLLESTON.

Polycystic disease of the kidney in an infant aged 3 months (‘*Amer. Journ. Dis. Child.*,’ 1915, X, *p.* 367).—**J. S. Leopold** and **M. B. Künstler.**—About two weeks after birth the mother noticed that the infant's abdomen was increasing in size. In the last two months the increase had been progressive. There were never any urinary symptoms. A large, irregular mass was palpable in each flank, extending from the costal margin into the flanks. The urine contained a very slight trace of albumin and a few granular casts. No red cells were present. As the tumours were growing larger and the general condition was getting worse, an exploratory operation was performed. Death took place the following day. Necropsy: The right kidney weighed 240 grm. and the left 230 grm. They were irregularly lobulated and of a spongy consistency, the meshes of the sponge being filled with a clear yellow fluid. There were a few good-sized cysts and innumerable smaller ones scattered throughout the kidneys. The liver was normal in appearance, but of unusually firm consistency, and showed microscopically enormous increase of the interlobular connective tissue and hyperplasia of the bile-ducts. The heart was hypertrophied but was otherwise normal. In infants the presence of a tumour in one or both flanks, accompanied by a nephritic urine and an hypertrophied heart, makes the presence of polycystic disease of the kidney almost certain.

J. D. ROLLESTON

Polycystic kidney in an infant (*'Amer. Journ. Dis. Child.,'* 1918, xv, *p.* 196).—**L. T. Royster** reports a fatal case in a male child, aged 8 months. The mother had noticed that the abdomen was unusually large before the child was one week old, and thought that it had grown since then. Two masses were apparent on inspection and palpation on each side of the abdomen and filled both flanks. The urine was uniformly negative except once, when it contained a faint trace of albumin. At the necropsy the kidneys completely filled both sides of the abdomen from the liver to below the crest of the ilium. They weighed 200 and 180 grm. respectively. Their surface was covered with cystic elevations from 2 mm. to 1 mm. in diameter. On section yellowish fluid exuded. The substance of the liver was rough and nodular, resembling atrophic cirrhosis. Microscopical sections showed atrophied liver cells and much connective tissue. The heart was not enlarged.

J. D. Rolleston.

Pituitrin in nocturnal incontinence of urine (*'Urol. and Cut. Review,'* 1917, xxi, *p.* 561).—**N. A. Mikhailow.**—In most cases of incontinence the essential cause is atony of the bladder accompanied or not by local changes (hyperæmia of the base and neck of the bladder, anæmia, and slight œdema of the mucosa, etc.). Mikhailow uses pituitrin in such cases, and finds that after three or four subcutaneous injections, given once a week, the incontinence disappears. He records nineteen cases, ten of which were in children, aged from 5–10 years, who were cured by doses of pituitrin ranging from 0·2 to 1·0 c.c.

J. D. Rolleston.

Surgical diseases of the urinary tract in children (*'Amer. Journ. Dis. Child.,'* 1918, xv, *p.* 116).—**A. Hyman.**—Urological diseases are not so infrequent in children as is supposed. Hyman reports eighteen cases in children, aged from 17 months to 13 years, including peri-nephritic abscess, renal tuberculosis, renal, ureteral, and vesical calculi, tumours of the kidney, congenital hydronephrosis and pyelonephritis. Many of the cases would have been overlooked had not the methods commonly employed in adults been used, especially cystoscopy, which will sometimes be indicated in spite of negative findings in the urine. Of functional tests indigo-carmine is the simplest and most reliable. X-ray examination should be more frequently used, and should precede cystoscopic examination. Operations on the kidney, ureter, or bladder are well borne in infancy and early childhood. In a series of over twenty-five major operations Hyman had only one immediate death, which was due to uræmia following decapsulation for subacute nephritis.

J. D. Rolleston.

Traumatic rupture of the left kidney (*'Amer. Journ. Dis. Child.,'* 1916, xi, *p.* 58).—**C. J. Bloom** and **R. E. Stone** report a case in a girl, aged 11 years, who fell from a wagon to the ground—a distance of 3½ ft. The symptoms were pronounced shock, pain in the abdomen and lumbar region, temperature of 102° F., and tympanites. On laparotomy, twenty-four hours after the accident, a large hæmatoma, firmly organised, was found. Two separate lacerations of the kidney were found—one in the lower lobe, the other about 3½ in. above. The capsule was completely torn away and in shreds; hence suturing was impossible. The field was irrigated with saline, a cigarette drain introduced, and the wound closed. Recovery took place.

J. D. Rolleston.

Nephrotomy for complete suppression of urine in a child (*'Med. Journn. of Australia,'* 1917, II, *p.* 333).—**H. I. Holmes.**—The following are the chief points in the case: (1) Onset similar to acute nephritis. (2) The age of the child, 1 year 8 months. (3) Complete suppression occurred on the fourth day of the illness. (4) Death on the eleventh day. (5) Great relief from nephrotomy followed by marked secretion of urine. (6) No rise of temperature or pulse-rate. (7) Intense engorgement of the kidney.

F. R. B. ATKINSON.

Edebohls' operation in nephritis in children (*'Journ. Amer. Med. Assoc.,'* 1917, LXIX, *p.* 525).—**J. L. Morse** reviews the clinical records and pathology of Edebohls' operation (*i. e.* decapsulation of the kidney) in cases of acute and chronic nephritis, and reports several cases of his own in which this method of procedure was attended with beneficial results in children. He is of opinion that the operation is of much value in properly selected cases of nephritis in childhood. It may save life and result in permanent cure in acute nephritis. No child ill with acute nephritis should be allowed to die, therefore, without giving it the advantage of the chance afforded by this operation. It may prolong life for considerable periods in a not inconsiderable number of cases of chronic nephritis, and may possibly, in rare instances, result in cure. It should, therefore, always be considered in all cases of chronic nephritis in childhood which are not responding reasonably well under medical treatment. T. R. WHIPHAM.

Vesical calculi in the child (*'Arch. Españ. de Ped.,'* 1918, II, *p.* 65).—**P. Borobio,** in the course of 30 years, has seen 68 cases in his pædiatric clinique at Saragossa. Sixty-six were boys and 2 girls. The ages ranged from 22 months to 13 years; 37, or more than half, were under 6 years. Stones composed of uric acid, which are the commonest in the adult, are rare in the child. Oxalate stones are commoner in the child than in the adult, and stones consisting of phosphates, which are the commonest in the child, are less frequent in the adult. Of the 68 cases, in 5 the stones consisted of uric acid, in 24 of oxalates, in 35 of phosphates, and 4 were mixed. In only 3 cases were 2 stones present; in none more than 2. Vesical stones are common in poor children, probably owing to their vegetarian diet. The three principal symptoms are pain, incontinence of urine, and hæmaturia. Suprapubic or hypogastric cystotomy is the best operation for vesical calculi in the child. In 52 cases thus operated on by the writer only 3 died. Of the 66 cases 3 had relapses, the intervals between the 2 attacks being 4 years in 1 case and 2 years in the others. J. D. ROLLESTON.

Preputial calculi in an infant aged 33 months (*'Le Nourrisson,'* 1917, v, *p.* 270).—**Ramaroni.**—Since the age of 3 or 4 months the child had had pain on micturition and had occasionally passed minute calcareous concretions in the urine. Large calculi could not be passed as the preputial opening could barely admit a grooved director. The dilated prepuce, which merely served as a covering to the glans without any adhesions, felt like a fowl's gizzard. After splitting the muco-cutaneous surface of the glans on its dorsal aspect, forty-five calcareous concretions were displayed, varying in size from a small pea to that of a grain of barley or rice, and situated round the corona, which was not ulcerated and was of normal appearance. The calculi weighed 2·720 grm., and were composed of ammonio-magnesium phosphate. Their formation was due to ammoniacal decomposition of the urine accumulated between the prepuce and glans. J. D. ROLLESTON.

Plastic meatotomy (*'Glas. Med. Journ.,'* 1917, II, *p.* 132).—**J. L. Hamilton** points out that the operation of meatotomy is performed for the relief of retention of urine in young male children from ulceration round the urinary meatus. This ulceration is found after circumcision, and is due to the fact that phimosis produces, in many cases, a slight pouting or prolapse of the mucous membrane of the urethra. When the child is circumcised, this protruding mucous membrane is exposed to friction from napkins or clothing, and becomes eroded, forming a ring of ulceration round the meatus. The passage of urine over the raw surface being painful, the child retains the urine as long as possible. Meanwhile a crust forms on the ulcerated surface, sealing the urethral orifice, and so forming an obstruction. When the bladder is full—or overfull—this crust must be forced off from the meatus before urine can be passed, only to form again in the interval before urine is again passed. In the treatment of this condition the following operation has proved very successful. An intestinal needle, threaded with catgut, is passed into the urethra and brought out through the glans at one side beyond the ulcerated surface. A similar suture is inserted on the opposite side of the meatus, and by these two sutures the sides of the meatus are pulled apart, while the glans is divided down, by scissors or scalpel, from the lower margin of the meatus for a distance of an eighth to a third of an inch, varying with the size of the ulcer and the tightness of the meatus. A third suture is inserted from inside the urethra through the glans and is placed at the end of the incision—*i. e.* at what is now the lower angle of the meatus. The three sutures are tied with the knots inside the urethra to keep the edges of the meatus apart. Success invariably follows this operation. The retention disappears immediately and the ulcer is quite healed in a few days. J. ALLAN.

Sexual precocity in the male (*'Amer. Journn. Dis. Child.,'* 1918, XV, *p.* 132).—**A. Strauch** reviews the literature and records a case in an imbecile boy, aged 11 years, whose genitals were remarkably developed. The larynx was very prominent and the voice deep. The case was classified as primary hyper-genitalism without anatomo-pathological changes, as there was no evidence of tumour of the adrenals or affection of the pineal or pituitary glands. J. D. ROLLESTON.

The ætiology of infantile hydrocele (*'La Pediatria,'* 1917, XXV, *p.* 212).—**R. Vaglio** gives details of 55 cases of infants under 1 year, and found that in 24 there was evidence of luetic infection, in 5 it could not be excluded with certainty, while in 26 there was no evidence to prove or suspect syphilis. There was, therefore, direct evidence in 40 per cent. Out of 115 cases of hereditary syphilis with definite manifestations during the preceding three years the author found 20 cases of hydrocele.

VINCENT DICKINSON.

Notes on a case of embryoma testis (*'Med. Journ. of Australia,'* 1917, II, *p.* 5).—**H. M. Moran.**—The child was 8 months old, and the right testicle had been swollen for five months. The testicle was removed and the spermatic cord up to the internal ring. Microscopical examination revealed an embryoma and showed elements resembling cartilage, bone, unstriped muscle and tissue resembling the intestine. The condition is very rare. Recovery was uneventful. F. R. B. ATKINSON.

Imperforate hymen; large serocolpos in a child (*'Amer. Journ. Obst.,'* 1917, LXXV, *p.* 398).—**S. Wiener.**—Although atresia of the hymen with consequent hæmatocolpos is fairly common, serocolpos, or distension of the vagina by serous fluid of non-menstrual origin, is exceedingly rare. Wiener records a case in a girl, aged 12 years, in whom the serocolpos formed an abdominal tumour reaching up to the umbilicus, and by its pressure upon the urethra and neck of the bladder caused retention of urine. On excision of the hymen, 30 oz. of thin yellowish-white turbid fluid were evacuated. The accumulation of the fluid was due to excessive activity of the glands of the endometrium and endocervix. J. D. ROLLESTON.

Condylomata acuminata in childhood (*'Dermat. Wochenschr.,'* 1917, LIV, p. 486).—**R. Frühwald** records two cases in girls, aged 11 and 13 years respectively, in both of whom there was a history of venereal infection. Case 1: A girl, aged 11 years, presented lesions on the perineum and genitals with the typical cauliflower appearance of condylomata. A vaginal discharge containing gonococci was present, and this was probably the cause of the vegetations. Case 2: A girl, aged 13 years, who had been suffering from a vaginal discharge and ardor urinæ for six weeks, showed condylomata round the anus. No gonococci were found in the discharge, but this may have been due to the fact that the discharge had already been treated.

J. D. ROLLESTON.

Epidemic vaginitis in children (*'Amer. Journ. Med. Sci.,'* 1917, CLIII, *p.* 207).—**B. K. Rachford** says that vaginitis is one of the most prevalent infections in large cities, especially in hospitals and other institutions for female children. The measures in vogue for the cure of the disease and preventing its spread are quite unsatisfactory. Rachford has never seen an instance in which this disease was contracted by an adult, although the cases were constantly under the care of female nurses. No satisfactory explanation has been given of this immunity. Unlike the gonococcal vaginitis of adults, the cases due to sexual contact are practically negligible. The duration of the disease is usually from six weeks to six months, but it may last for years. A large percentage of apparently cured cases are subject to relapses, but there is a tendency to spontaneous cure at puberty. Complications and sequelæ are much less common than in the gonococcal vaginitis in the adult. Since 1905 Rachford has seen only one possible gonococcal complication (arthritis), in spite of a very large experience of the disease. He holds that the simpler methods of treatment, *e. g.* irrigating the infected parts once a day with two quarts of a normal saline solution followed by injections of 2 or 3 oz. of 1 per cent. solution of silver nitrate, are more effective than the more severe forms of treatment involving direct application of strong astringents and antiseptics to the vagina and cervix. The intractability of many of these cases is largely due to reinfection. The disadvantage of long-continued treatment is that it may lead to masturbation. Rachford thinks that there is no justification for excluding the cases from attending school.

J. D. ROLLESTON

The bacteriology of the urine in children with vulvo-vaginitis (*'Amer. Journ. Dis. Child.,'* 1917, XIII, *p.* 420).—**A. B. Schwartz.**—In 18 children over 2 years of age with chronic gonococcus vulvo-vaginitis catheterised specimens of urine showed a comparative absence of bacteria.

Most of the organisms found were either Gram-positive cocci or diphtheroid bacilli. In most cases they were in such small numbers that they were probably accidental contaminations from the urethra. The second portion of the urine representing the bladder flora was shown to be as free from infecting organisms as a series of normal children. Vulvo-vaginitis did not, therefore, increase the tendency to contamination of the bladder. Gonococcus cystitis is more likely to develop when the bladder has previously been infected by *B. coli.* J. D. Rolleston.

Some fresh cases of vulvo-vaginitis in girls treated by antigonococcal vaccine (*'Arch. de Méd. des Enf.,'* 1917, xx, *p.* 245).—**Mlle. Condat** had previously reported with Comby sixteen cases treated with Nicolle's vaccine, and now adds twenty-four more in children, aged from 18 months to 11 years. Success was obtained in every case. Recent cases were most quickly cured, and the cure appeared to be permanent. The vaccine was given intra-muscularly in the antero-external aspect of the thigh. At first three injections a week were given, then as the discharge diminished two; and finally one. The course of treatment varied from a fortnight to four months. The average period was two months. J. D. Rolleston.

Vaginal discharge in children; study of 255 selected cases with special reference to the question of the diagnostic and specific value of smear examinations (*'Boston Med. and Surg. Journ.,'* 1918, clxxviii, *p.* 147).—**I. C. Rubin.**—The first 50 cases were treated by Barnett, whose paper appeared in 1913 (*v.* British Journal of Children's Diseases, 1414, xi, *p.* 179). When Rubin first undertook the work he found that the diagnosis of gonorrhœa was made by smear examination. When, however, smears proved positive in a number of apparently healthy children with the slightest vaginal discharge, some other method obviously became necessary to establish gonorrhœal infection. Rubin thinks that if the majority of children with a vaginal discharge are infected with the gonococcus, it must be a different organism from that occurring in adults. To establish the diagnosis of gonorrhœal vaginitis he requires: (1) A purulent discharge from the vagina. (2) The intracellular Gram-negative diplococcus. (3) The organism must be grown on suitable culture media and properly identified as the gonococcus. (4) In case of doubt complement-fixation tests and agglutination tests should be used In the absence of these tests there is no justification for regarding any vaginal discharge in children as gonorrhœal or in treating it as such. The smear examination is unreliable and misleading and hence valueless as a method of diagnosis. J. D. Rolleston.

Provocative and prophylactic vaccination in the vaginitis of infants (*'Amer. Journ. Dis. Child.,'* 1916, xii, *p.* 466).—**A. F. Hess.**—Necropsies show that in subacute and chronic cases of so-called vaginitis in infants the cervix is most frequently involved, and that the vagina generally shows no signs of inflammation. In institutions the greatest obstacle to controlling the spread of the disease is the difficulty of controlling latent cases. By inoculations of gonococcus vaccine (two injections of 100–400 millions) Hess was able to convert the concealed carrier into an open case. Vaccines also had some prophylactic value, and either completely protected or rendered subsequent infection of a mild character.

J. D. Rolleston.

Dermatology and Syphilis.

A case of acute erythematous lupus ('*New York Med. Journ.*,' 1917, CVI, *p.* 931).—**G. A. Brown** reports a case in a boy, aged 11 years, with no family history of tuberculosis. Towards the end of March his ears became inflamed, and appeared to be frost-bitten. The condition became progressively worse. On admission to the infirmary on April 11, there were several circumscribed, slightly scaly, reddish patches on both cheeks and nose. Temperature 100° F. On April 20 small inflammatory areas appeared on the tips of the fingers and toes, with atrophic changes in the centres. Temperature 103° F. Typhoid state. The von Pirquet, Wassermann, and Widal reactions were negative. Death from pulmonary œdema on May 14. No necropsy. J. D. ROLLESTON.

Cutaneous reactions from proteins in eczema ('*Amer. Journ. Dis. Child.*,' 1916, XI, *p.* 441).—**K. D. Blackfan.**—Of 43 patients without eczema only 1 showed any evidence of susceptibility to protein by cutaneous and intracutaneous tests. Of 27 patients with eczema, 22 showed susceptibility to proteins such as egg white, cow's milk, or woman's milk. A positive reaction was shown by the appliance within five minutes of an urticarial wheal or of marked erythema and œdema at the point of scarification. If there was a reaction from one protein there usually was a reaction from several. The intracutaneous test was more delicate than the cutaneous, but gave results which were more difficult to interpret.

J. D. ROLLESTON.

Albuminuria in scabies ('*Thèses de Lyon*,' 1916–17, No. 77).—**H. Ubersfeld.**—Albuminuria is not uncommon in scabies. Among 260 cases of scabies observed by the writer 17 had albuminuria, while out of 110 cases suffering from other skin diseases albuminuria was present in only 2 (eczema and erythema multiforme). This albuminuria is particularly frequent in prolonged and neglected cases, and, as a rule, occurs in children and adolescents, more rarely in adults. The appearance, course, and cure of the condition depend on the course of the scabies which gave rise to it. It can only be cured by treatment for scabies. Two forms may be met with: (1) The true albuminuria of scabies, varying in amount and of transient duration, not accompanied by any subjective or objective symptoms, and disappearing under treatment for scabies. (2) The nephritis of scabies with all the ordinary symptoms of nephritis, usually disappearing with the scabies, but in certain cases out-lasting it and becoming chronic. The pathology is probably complex. Sometimes the albuminuria may be due to cutaneous irritation which acts reflexly on the renal circulation and produces more or less severe disturbance of function; more rarely it may be due to a true toxi-infective nephritis; and, lastly, it is possible that a toxin secreted by the acarus gives rise to the condition. The thesis contains the histories of twenty-two original cases, thirteen of which occurred in children, aged from 6 to 16 years. J. D. ROLLESTON.

Skin manifestations with streptococcus infection ('*Amer. Journ. Dis. Child.*,' 1916, XI, *p.* 460).—**A. B. Schwartz.**—A male infant, aged 17 months, during an attack of broncho-pneumonia developed a generalised streptococcic infection manifested clinically by the almost simultaneous appearance of purulent arthritis, erythema nodosum, and erysipelas. A streptococcus was cultivated from the blood, a joint effusion, and an excised nodule. Death took place after one month's illness. J. D. Rolleston.

The treatment of infantile impetigo and pyodermatitis (*'La Pediatria,'* 1917, xxv, *p.* 718).—**A. Gismondi** calls attention to the value of Triboulet's method, which consists in the application of carbol-fuchsin solution, such as is used for staining tubercle bacilli, its action being chemiotaxic. The dry, superficial crusts are first removed by compresses soaked in alibour water, 1 in 2 of boiling water, or ½ per cent. solution of sulphate of zinc. Then with a swab of cotton-wool every part is thoroughly impregnated with the fuchsin solution, using gentle, direct pressure. This dries rapidly and thus effectively isolates the cutaneous element from contact with the air. By continuing the application daily after a short time the crusts dry up, leaving, when they fall off, a surface already skinned over, or which rapidly cicatrises with a final application. The action of the fuchsin is explained by the chemiotaxis which it exerts on micro-organisms. These undergo a true staining, saturation, and a sterilisation *en masse* of the colonies of pyogenes which exists below the crusts in the thickness of the skin itself. It has also the advantage of withdrawing from the contact of the air the subjacent skin, preventing its attack by new micro-organisms. At the same time its exerts a true keratinising action on the denuded surface.

Vincent Dickinson.

Eruption of tuberculides of the type of lichen scrofulosorum round an intra-dermo-reaction to tuberculin (*'Arch de Méd. des Enf.,'* 1917, xx, *p.* 590).—**L. Brocq.**—A girl, aged 13 years, who had been suffering from enlarged glands of the neck for five years, and from lichen scrofulosorum for the past month, was given an injection of tuberculin on the left forearm (1 in 10,000); forty-eight hours later the temperature rose to 100·4° F., and an eruption developed with all the characters of lichen scrofulosorum near the area of the injection, though, strange to say, in a zone of 2½ cm. radius round the point of injection the skin was quite free from eruption.

J. D. Rolleston.

Mongolian blue spots at São Paulo (*'Arch. de Méd. des Enf.,'* 1916, xix, *p.* 536).—**C. Ferreira.**—During 1915, 371 infants attended the infants' dispensary at São Paulo; 343 were whites, 19 mulattoes, and 9 negroes. The Mongolian blue spots were present in 11, or 3 per cent., of the whites, in 10, or 52·6 per cent., of the mulattoes, and in 6, or 66 per cent., of the negroes. As in past years (*v.* British Journal of Children's Diseases, 1915, xii, *p.* 251, and 1916, xii, *p.* 224) the frequency of the spots was greater among the mulattoes and negroes. J. D. Rolleston.

Mongolian blue spots at São Paulo (*'Arch. de Méd. des Enf.,'* 1917, xx, *p.* 537).—**C. Ferreira.**—During 1916, 426 infants attended the infants' dispensary at São Paulo, and were classified as follows: Whites, 392; mulattoes, 15; negroes, 19. The Mongolian blue spots were present in 8, or 2 per cent., of the whites, in 11, or 73 per cent., of the mulattoes, and in 13, or 68 per cent., of the negroes. J. D. Rolleston.

A rare localisation of pediculi pubis (*'Dermat. Woch.,'* 1917, liv, *p.* 699).—**E. Klausner.**—A boy, aged 13 years, who was under treatment for acne vulgaris, presented an aggravation of the condition through the appearance of large comedones. Examination showed that this was due to the presence of pediculi, several large specimens of which were situated on the forehead between the acne nodules and comedones. No nits were to be found in the eyelids, eyelashes, or hair of the scalp, pubes, or axillæ. The boy was unaware of the presence of the parasites, as they had not caused any itching. Beyond removal of the pediculi no treatment was adopted.

J. D. Rolleston.

Clinical course and physical signs of hereditary syphilis of early age (‘*Amer. Journ. Dis. Child.*,’ 1916, xii, *p.* 364).—**A. Post.**—The diagnosis of hereditary syphilis may be very simple in severe cases in which wasting and external manifestations are prominent, or may present one of the most difficult problems in medicine. In the case of a very young baby with no certain signs, the physician should listen for noisy breathing, and to its cry. The hair should be carefully observed and the veins of the scalp. Alopecia is found at birth in a large proportion of cases. It is seldom if ever a complete loss, but is usually a general thinning of the hair. The soles need special inspection. The characteristic redness first appears in the heels. Careful X-ray study will be a great aid in diagnosis, as there is almost always periostitis of some bones.

J. D. Rolleston.

Contagiousness of congenital syphilis (‘*Münch. Med. Woch.*,’ 1918, lxv, *p.* 71).—**Werther** records ten cases of congenital syphilitic children who infected their nurses on the finger, tonsil, lips, or nipple. These cases contradict Pfaundler’s statement that congenital syphilitics never, or hardly ever, spread infection. Many cases doubtless escape notice. Erroneous diagnoses are often made of an extra-genital chancre, and after it has healed it is forgotten, and cases who are seen with later syphilitic phenomena are regarded as having acquired syphilis in the ordinary way.

J. D. Rolleston.

The significance of certain dental stigmata of congenital syphilis (‘*Arch. of Ped.*’ 1917, xxxiv, *p.* 765).—**J. S. Wall** says that lesions of the first permanent molar are just as typical of congenital syphilis as Hutchinson’s teeth, although they are less conspicuous. The sixth-year molar is the only member of the permanent set to dentify during intra-uterine life. The incisors and canines pass through this process in the first few months after birth, and will show the typical stigmata if the disease is active at this period of infantile life. The changes in the sixth-year molar consist of an erosion, irregular in form, involving a third, a half, or even the whole of the surface of the tooth. There is often a pulpy-looking mass of a dirty yellow colour occupying most of the surface of the crown. This tooth, which has been called “the honeycombed molar of hereditary syphilis,” is spoken of by Wall as “the mulberry molar,” the worm-eaten aspect of the cutting surface being compared to the appearance of the tip of a mulberry.

J. D. Rolleston.

On the significance of Carabelli’s tubercle (‘*Presse Méd.*,’ 1918, xxvi, *p.* 116).—**E. Jeanselme.**—In 1844 Carabelli described a supernumerary cusp on the palatal surface of the first upper permanent molar. According to Jeanselme’s statistics it is present in 17 per cent. of French adult males, in 17 per cent. also of the boys and girls in the Hospice des Enfants Assistés, and in 20 per cent. of young deaf-mutes of both sexes. In a large number of persons it exists in a rudimentary condition. It has been found in all races and in all periods. Jeanselme has seen it among negroes, the inhabitants of Madagascar, North American Indians, and Pacific islanders. It was not uncommon in the neolithic period. There is no justification for regarding it as a sign of inherited syphilis. J. D. Rolleston.

Morbus cæruleus of syphilitic origin ('*Arch. de Méd. des Enf.*, 1916,' xix, *p.* 149).—**E. Jeanselme** records a case in a girl, aged 11 years, whose father and mother were syphilitic. The child had shown an eruption around the anus two weeks after birth, and later onychia of several fingers. After an attack of pulmonary congestion at the age of 8 years she presented all the symptoms of morbus cæruleus. The livid tint was most marked on the cheeks, ears, nose, chin, wrists, hands, and lower limbs, and was aggravated by the least effort and cough. The fingers were clubbed. The Wassermann reaction was positive both in her and a younger brother, aged 6 years, who also showed a degree of cyanosis and clubbed fingers, though the heart and other organs appeared normal. A systolic murmur was heard over the pulmonary area conducted to the clavicle. J. D. Rolleston.

Syphilitic disease of the thymus in infants and the mode of origin of the Dubois abscesses ('*Amer. Journ. Dis. Child.*,' 1917, xiii, *p.* 158).—**J. Oliver.**—Syphilitic disease of the thymus in infants is manifested primarily by a degeneration of the lymphocytes and Hassall bodies with a hypertrophy of the reticular epithelium and hyper-regeneration of the concentric corpuscles. The process may give rise to the formation of cystic cavities—the so-called Dubois abscesses—by the dilatation and fusion of the degenerating Hassall bodies. Oliver records an illustrative case in an infant, aged 6 weeks, which died of pneumonia. The necropsy showed pneumonia alba, osteochondritis syphilitica, interstitial hepatitis, as well as miliary gummata in the liver and subacute glomerulonephritis. The thymus was of normal size, but contained fibro-cysts. J. D. Rolleston.

Spasm of the glottis and generalised convulsions with the facial phenomenon in syphilitic rickets ('*Le Nourrisson,*' 1916, iv, *p.* 291).—**A. B. Marfan** records a fatal case in a female infant, aged 20 months, in whom the predominance of the bony deformities in the skull, the development of the superficial veins of the forehead and temples, and enlargement of the spleen suggested syphilis as the cause of rickets, especially as there was no evidence of tuberculosis or chronic digestive disturbance. Wassermann's reaction could not be performed, but the diagnosis was confirmed by the discovery of miliary gummata in the spleen post mortem. The parathyroid glands were normal both on naked eye and microscopical examination. J. D. Rolleston.

A family of heredo-syphilitics; five appendicitis cases among eight children ('*Ann. des Mal. Vénér.*,' 1917, xii, *p.* 257).—**Gaucher.**—A girl, aged 10½ years, who had had interstitial keratitis at the age of 8 and been cured by mecurial inunction, was brought to hospital with symptoms of appendicitis. Wassermann reaction positive. She was the seventh child of the family. The eldest child, a girl, who had died at the age of 18 of chest trouble, had suffered from chronic appendicitis. The second, a girl, aged 20, had died after an operation for perforation of the appendix. The third child had died at 15 of appendicitis and acute peritonitis, without an operation. The fourth child had died in early life of meningitis (?). The fifth child had died shortly after birth. The sixth child, now aged 13, had been operated on for appendicitis at 12. Her palate was highly arched and her tongue fissured. The eighth child had died in early life. The mother had had three miscarriages, the last of which proved fatal. The father admitted gonorrhœa but denied syphilis. The Wassermann reaction, however, was positive. Gaucher knows of three other families, one consisting of two, and the others of three children, in which the three fathers were syphilitic, and all the children had been operated on for appendicitis.

J. D. Rolleston.

Syphilitic meningitis and meningeal reactions in syphilis (*'Arch. de Méd. des Enf.,'* 1916, xix, *p.* 579).—**M. Lavergne** records four cases in children, aged from 18 months to 13 years, which all terminated in recovery under mercurial inunction. In none of the cases were there any clinical signs of congenital syphilis except a natiform skull and convergent strabismus in one case. The infant, aged 18 months, was suffering from pneumonia. The cerebro-spinal fluid in each case was under hypertension, clear, showed lymphocytosis, and a positive Wassermann reaction, but no micro-organisms.

J. D. Rolleston.

Acute syphilitic meningitis in an infant 12 months old (*'Amer. Journ. Dis. Child.,'* 1918, xv, *p.* 201.).—**D. B. Leitch** records a fatal case in a male infant in which the gradual onset, vomiting, constipation, and drowsiness suggested tuberculous meningitis. Three tuberculin skin tests, however, were negative, and no tubercle bacilli were found in the spinal fluid. The symptoms also differed from those of tuberculous meningitis in the continued absence of fever and convulsions, the turbidity of the spinal fluid, and the relatively small percentage of lymphocytes. Examination of the fundus for tubercles showed typical syphilitic choroiditis. The spinal fluid was then examined for spirochætes, which were found in large numbers. The necropsy showed irregular patches of greyish-white exudate covering the vessels of the parietal and temporal lobes. No fibrino-purulent exudate was seen. The brain substance showed considerable softening. The ventricles were dilated, and contained turbid fluid. Smears from the exudate on the surface and from that in the ventricle showed numerous spirochætes. The liver showed syphilitic hepatitis. Acute syphilitic meningitis in infancy is very rare. Only about six cases have been reported. In no previous case have spirochætes been demonstrated during life in infancy.

J. D. Rolleston.

A comparative study of the luetin and Wassermann reactions in infancy and childhood (*'Amer. Journ. Dis. Child.,'* 1916, xii, *p*, 387).—**L. R. De Buys** and **J. A. Lanford** carried out 350 Wassermann reactions and 100 luetin tests in 175 children, aged from 12 days to puberty. Their conclusions were as follows: (1) The Wassermann reaction is not so valuable as the luetin test in syphilis. (2) It is impossible for a mother to bear a child with positive tests without giving positive tests herself. (3) The luetin test should not displace the Wassermann, as both tests serve distinct purposes, the Wassermann to give evidence of the presence of anti-bodies in the circulation indicating an active process, while the luetin not only gives this evidence, but also indicates an existing syphilitic condition, even though it be inactive. (4) The luetin tests must be differentiated from the single reaction produced by the intradermal reaction of sterile, inert, foreign material. It is also influenced by certain drugs (iodides), which may cause a pseudo-reaction. (5) Luetin reaction should not be considered negative till sufficient time shall have elapsed to warrant such a reading. J. D. ROLLESTON.

The value of the Wassermann reaction in the newly-born (*'Arch. of Ped.,'* 1918, xxxv, *p.* 40).—**H. H. Yerington,** as the result of the examination of 480 cases, came to the following conclusions: A diagnosis of syphilis in an infant under 10 days of age cannot be made by a positive cord or heel blood without evidence of lues elsewhere. The results obtained from examination of heel blood are more reliable than those obtained from examination of cord blood. The placental work seems to show that though the mother's blood may be negative, an active syphilitic process may go on in the placenta, resulting in still-birth or abortion. It is most important that all the children should be followed up for a period of years and their blood examined from time to time. J. D. ROLLESTON.

Ante-natal treatment of congenital syphilis with Salvarsan (*'Glas. Med. Journ.,'* 1918, I, *p.* 65).—**L. Findlay** finds that ante-natal treatment with Salvarsan, reinforced by mercury, is superior to that with mercury alone. By this method not only is a larger proportion of the children healthy—various statistics record 100 per cent. of healthy children—but it would seem that without further treatment the mother can continue to bear healthy infants. He thinks it advisable that all records of miscarriages and still-births should be kept, and those due to syphilis determined, when the syphilitic mothers could be treated with mercury and Salvarsan, and the health of their future children almost certainly guaranteed.

J. ALLAN.

Treatment of hereditary syphilis (*'Amer. Journ. Dis. Child.,'* 1916, XII, *p.* 395).—**P. H. Sylvester.**—During pregnancy the mother should be treated vigorously. At birth, whether showing lesions or not, and whether the Wassermann reaction is positive or not, the baby should receive inunctions of 25 per cent. mercurial ointment for about two weeks, during which time if lesions occur, or the infant gets worse, it should have 0·15 or 0·2 grm. neosalvarsan in 5 c.c. distilled water intravenously at weekly intervals, meanwhile continuing the mercury. As soon as the lesions disappear the neosalvarsan should be stopped, and the mercury alone should be continued for several months. At 6 months a Wassermann test should be made, and if positive the mercury should be continued as before. If negative the mercury should be given intermittently every other week or every other fortnight, but should not be omitted for longer than a fortnight. At 1½ years a Wassermann test should be made, but the result should have no effect on treatment. At 2 years treatment may be stopped if the Wassermann reaction is then negative, and if again negative at 2½ years the patient may be considered tentatively cured.

J. D. ROLLESTON.

Acquired syphilis in children (*'Thèses de Paris,* 1917–18, No. 90).—**P. Rimetz** alludes to Manne's thesis (*v.* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1910, VII, *p.* 415) and the paper by Gaucher and Flurin (*ibid.*, 1911, VIII, p. 283), and reports two cases in a boy, aged 2½ years, and a girl, aged 8 years, in whom the chancre was extra-genital (perineum in the boy and tonsil in the girl), and two cases in girls, each aged 3 years, in which the chancre was situated on the vulva. More than two-thirds of the cases of acquired syphilis in children have a non-venereal origin. Another important characteristic of acquired syphilis in children is that it is frequently contracted in the family either from an infected member of the family or a toilet article or plaything. J. D. Rolleston.

School Hygiene.

Scope of practicable examination in routine school medical inspection ('*New York State Journ. Med.*,' 1916, xvi, *p.* 493).—**C. P. McCord** pleads for standardisation of methods in school medical inspection, and outlines a practical scheme for routine work in this connection. The purposes of school health work should be: (1) To detect and exclude cases of contagious disease, and to prevent epidemics of the same among school children. (2) To help in maintaining sanitary conditions and proper physical equipment in the schools. (3) To detect physical defects, and secure correction of these defects through the co-operation of school officials, school nurses, parent and family, or dispensary physician. (4) To aid the Board of Education in passing judgment on the physical fitness of teachers and janitors. (5) To teach practical hygiene in school and home through the agency of the teacher and the school nurse. (6) To make special studies of the physical and mental sides of child life, so that the best ways may be determined for giving the child the training suited to his individual needs. (7) To assist in furnishing to school children scientific physical training and proper recreational facilities. (8) To diagnose mental deficiency. (9) To co-operate with all agencies concerned in the social, moral, mental, and physical improvement of the child. The author makes the following suggestions: (1) One doctor and two nurses for every 3000 children. (2) A full-time inspector and two nurses in every district of 30,000 population. (3) Part-time inspectors to be employed for at least two hours daily for the entire school year. (4) If the choice between a full-time nurse or a part-time doctor to initiate the work is imperative, the full-time nurse is the more desirable. (5) The special training of school nurses, in addition to the regular hospital course and registration under the laws of their State, and their selection as school nurses on the strength of their credentials and apparent personal fitness as considered by the executive under whom they work. (6) Treatment by medical inspector, and development of school dispensaries where local clinical facilities are inadequate. (7) The recognition of the fact that the type of examination for the purposes of routine work of necessity will be modified by variations in the "working unit," physical equipment, etc., and that standardisation of these features must be our first consideration. (8) A careful selection of higher executives in the work in order to insure the propagation of intelligent public opinion, and a comprehension of the development of the work along constructive lines.

J. Allan.

Some practical experiences in medical inspection in rural sections ('*New York State Journ. Med.*,' 1916, xvi, *p.* 593).—**W. A. Have** draws attention to the lack of uniformity in methods of school medical inspection in country districts, and makes the following suggestions: Only physicians interested or willing to take an interest in the work should be utilised as medical inspectors; the utmost care should be exercised in all examinations, and definite information should be given to parents as to defects found; the physician should receive a fee commensurate with the services rendered; physicians, dentists, teachers, parents, pupils, and nurses should co-operate in the entire system of school inspection. The real success of school inspection will be measured by the thoroughness with which the examinations are made and the results accomplished, and by our ability to teach health education. J. ALLAN.

Medical inspection and supervision of school children in Edinburgh (‘*Edin. Med. Journ.*,’ 1917, I, *p.* 442).—**J. Hally Meikle** gives a general survey of medical school inspection work in Edinburgh, and describes the means adopted to provide treatment for the various defects and conditions found under the following heads: (1) Treatment of conditions due to neglect; (2) treatment provided at the school clinic; (3) treatment by means of special schools and classes. J. ALLAN.

The care of children of the school ages (‘*Edin. Med. Journ.*,’ 1917, I, *p.* 336).—**L. D. Cruickshank** maintains that, broadly conceived, the organisation of school-health administration involves: (1) Systematic and special medical inspections; (2) the provision of adequate facilities for efficient medical treatment and the correlation of inspection and treatment in all its forms—curative and preventive; (3) the medical supervision and after-care of children who have undergone medical treatment; (4) the modified educational treatment of exceptional children, whether in ordinary schools or in special schools, and the control and direction of special school programmes; (5) the systematic supervision and control of the hygiene of all day-schools; (6) the systematic supervision of physical education among all classes of children; (7) supervision of schemes for the feeding and clothing of necessitous children; (8) co-operation with public health authorities in the control of infectious diseases; (9) co-ordination of the work of school health administration with child-welfare agencies outside the scope of the School Boards; (10) the giving of advice with regard to school sites, school playgrounds, new buildings, or anything connected with the structure or internal arrangements of the school which might affect the health of the pupils. J. ALLAN.

The care of children under school age (‘*Journ. State Med.*,’ 1916, XXIV, *p.* 207).—**A. S. M. MacGregor** states that the medical inspection of school children has clearly demonstrated that it is illogical to withhold remedial and preventive measures from the antecedent ages of life. The organised care of young children is important, though more difficult than that of school children. Healthy homes and open spaces must be prominent among general measures. As regards the children themselves, the nursery school is good and is worthy of further extension. There is no reason why the organisations and clinics established under the Notification of Births Act should not be available for children beyond the end of their first year. Education, which can only be effected slowly and by persistent effort, is an important element in the matter, and has to some extent been attempted by the formal instruction of mothers. Satisfactory medical care will probably not be attained until the unification of medical services is undertaken. Whatever practical scheme is evolved to meet the necessities of the case, it is to be hoped that due recognition will be given to the importance of investigation of the diseases of children, and of the effects of environment on health, as the age group under discussion is particularly barren of scientific data. J. Allan.

The care of children under school age (*'Journ. State Med.,'* 1916, xxiv, *p.* 178).—**D. Forsyth** emphasises the importance of this problem, and points to the fact that medical inspection of school children has disclosed a widespread condition of ill-health even among the youngest school entrants. He discusses the circumstances favouring the deterioration in health in the first five years of life, and he reviews the methods by which improvement in this respect might be brought about. J. Allan.

The principles of organisation and administration in child-welfare work (*'Journ. State Med.,'* 1917, xxv, *p.* 33).—**J. E. Lane-Claypon** deals briefly with post-natal methods, examines in greater detail the causes of difficulty in ante-natal work, and suggests possible solutions. The points discussed include (1) post-natal child-welfare work, (2) the aims and work of a child-welfare centre, (3) ante-natal child-welfare work, (4) the *rôle* of the midwife, (5) maternity nursing, and (6) child-welfare service. J. Allan.

The open-air school child as a type (*'New York State Journ. Med.,'* 1916, xvi, *p.* 595).—**E. Durney** points out that the type referred to is the child whose physical inefficiency, from whatever cause, limits his activity in normal channels. The common picture is one of disordered nutrition, with its accompanying systemic disturbance. He thinks, however, the term "open-air school type" should be made to include a majority of all children attending school. The benefits of out-door air, recognised as both prevention and cure, should be extended to the great mass of public school teachers and pupils who at present spend their school hours in rooms where the open window is indicative of transgression of the school regulations.

J. Allan.

Residential treatment of delicate and pre-tuberculous children (*'Med. Officer,'* 1918, xix, *p.* 45).—**G. Jessel** emphasises the importance of open-air day schools and classes, which should become an integral part of our educational system. Some form of residential institution is also required, in which selected children will be well fed and cared for, enjoying to the fullest extent the much-needed open-air life, sunshine and rest. These residential open-air schools usually admit delicate and pre-tuberculous children, but occasionally also slight and non-infectious cases of pulmonary tuberculosis and certain chronic cases, *i. e.* glands, bones, joints, etc., where open-air conditions and good feeding are the chief indications. They afford opportunity for a change of environment sufficiently long to lead to definite improvement in health. Twelve such schools had been established in 1916, and grants for their aid are sanctioned when they are approved by the Board of Education. J. Allan.

Some observations on the vaccination mark (*'Med. Press,'* 1917, i, *p.* 120).—**E. Thorp**, during the medical inspection of school children, found the constant examination of the vaccination scar showed so many variations in the cicatrix at the different age groups that he formed the opinion that a systematic examination and investigation might be productive of interesting information as to the duration of scars on the human skin.

Three main groups of children came under observation—the infants or "entrants"; intermediates, aged 8 and 9 years; and "leavers," 12 to 14 years. A table gives information regarding the number examined in each group and the exact state of the vaccination mark. The table reveals many interesting points; amongst others, the decline in vaccination is well shown; but a more particular point noticed is the great change in character of the scar which appears in the 6 to 7 age group (children born in 1909). The marks were smaller, less numerous and less deep. It was also noted that each year the new children had a less successful inoculation. The author, though a firm vaccinationist, thinks that children are too young when vaccinated, and that the operation in the early months of infancy retards the child's welfare. He is of opinion that it would be wise to postpone it until the end of the second year of life, when the child would be much stronger, the objection of the parent would be in many cases removed, and the physique of the race would be greatly improved. J. Allan.

The deaf child from the standpoint of the educator (*'New York State Journ. Med.,'* 1916, xvi, *p.* 21).—**J. D. Wright** divides deaf children into three general groups for educational purposes: (1) Those who from birth or early infancy have been partially deaf, and by reason of their impaired hearing cannot make satisfactory progress in ordinary schools. (2) Those whose hearing has been seriously impaired or destroyed after speech had been acquired. (3) Those who have been totally deaf from birth or early infancy. The author calls for the abandonment of silent methods in teaching such children, and strongly urges the importance of choosing oral schools. J. Allan.

Physically defective children and the problem of their education (*'Dub. Journ. Med. Sci.,'* 1916, i, *p.* 95).—**W. A. Winter** emphasises the importance of this problem, discusses how such cases are dealt with in London, and gives details of the work and management of the residential school at Swinton House, Manchester. Every endeavour should be made, by means of attention to the mental, moral, physical, and technical education of these children, to turn them into useful, if not fully effective citizens, who will, in some cases at least, be capable of being self-supporting, instead of, as is too often the case at present, becoming human derelicts, living entirely on charity or the public rates. J. Allan.

What tests in childhood are best calculated to throw light upon the capacities of mental defectives for future work (*'Lancet,'* 1915, ii, *p.* 124).—**W. A. Potts** thinks that the most satisfactory decision would be attained by taking a large group who were submitted to many tests ten years ago, and inquiring what tests those now supporting themselves passed, and in what directions the unsuccessful failed. This information, however, is not forthcoming. The author deals with the subject by considering what are the causes of success and failure in the careers of normal individuals, and then, if we believe that these will operate also in the case of defectives, devising a set of tests to determine them. He also takes a group of defectives over twenty years of age, earning wages, and finds what good they have in common, comparing them with the group who are unemployed. Another plan considered is to investigate all known tests, and to decide which will be of service. As regards the causes of success and failure in life, the former, especially if it is to be marked, depends on the possession of four special qualities: (1) ability; (2) strength of character and will-power, in which, as a subsidiary, should be included ambition; (3) good health; and (4) pluck. Conversely, among the causes of failure are lack of ability, bad health, weak or bad character, and a faint heart. All these can be seen in operation in the history of defectives. Among them bad morals rank high. Many are moral imbeciles, and that is why they ultimately drift into institutions. Regarding the capacities of a group of defective wage-earners as compared with the less successful, the author bases his inquiry on how far success in after-life could be foretold by the school records. On studying the records for reading, writing, arithmetic, and manual work, it was obvious that aptitude for manual work was the essential. It may be said that a defective who at school is either very good or merely good at manual work and also at every school subject is certain to get work afterwards, unless he has some serious disability in addition to mental defect. As regards other school subjects, reading does not seem to be of much use as a guide, arithmetic gives a better clue, and writing is also some guide—at any rate in a negative way. An important index to success after school is afforded by the fact that defectives who respond to special school teaching may be divided into three groups: (1) those who improve continually; (2) those who improve up to a certain age—twelve or thirteen—and then remain stationary; (3) those who improve till a certain age and then actually go back. This can be determined by the Binet tests—the best for the purpose at present. Finally, the author discusses individual tests, and shows how far these may be useful in regard to the matter in question.

J. ALLAN.

Care of mentally defective children (*'Edin. Med. Journ.,'* 1917, I, *p.* 375).—**R. D. Clarkson** says that mental defect should be detected in early life. It will always become apparent, at latest, during the years a child spends at school. When it is evident the case should be notified to the District Boards of Control, and from that time till the case dies, or till it is quite certain that a mistake has been made and that the case is one of delayed development and not of genuine mental defect, the Mental Deficiency Committee of the Board of Control should be responsible for seeing that the case is properly provided for, and is placed in such surroundings that no danger to itself or to others can result. Without this amount of interference with the liberty of the subject, and with the supposed rights of parents to do what they like with their children, there will always be a certain amount of that social injury and moral damage which the Royal Commission found to be so prevalent, and which the Mental Deficiency Act was introduced to prevent.

J. ALLAN.

After-training of defective children (*'Glasg. Med. Journ.,'* 1917, I, *p.* 354).—**G. A. Brown** describes the results of special investigations respecting the conditions of defective children as wage-earners after leaving school, and proceeds to show that much useful and valuable material is being wasted at present because of the want of organisation, supervision, and control. Many of our special school children recover from their physical defects and are quite able to take their places alongside their normal fellows and become full wage-earners. Many others, however, are handicapped by physical and mental disabilities which are permanent, and prevent these children being employed because of the requirements of employers under the Insurance and Compensation Acts. When some of them do obtain employment they are, as a rule, only partially supporting themselves, and their wages are less than what might be obtained under a system of control. Here the greatest waste occurs, and little or no return is obtained for the money expended in the training of these children. Suggestions are made for the training of defective children in selected cases in trade schools and after leaving school, and the establishment of central workshops for these children is advocated. In this way the continued employment of the children in the trades in which they have been trained would be provided, and the best possible returns for their work would be likely to be secured. The whole of the work of these suggested central workshops, whether day or residential in administration, would provide for the employment of the worst cases of physical defect, and would also ensure that the poor, unfortunate, "home-ridden" cases, for whom practically nothing is done at present, could be profitably employed. Such workshops should be under the care of organised after-care committees. J. Allan.

Reviews.

The Jewish Child, its History, Folklore, Biology, and Sociology. By W. M. Feldman, M.B., B.S.Lond. With an Introduction by Sir James Crichton Browne. With 2 plates and 19 illustrations. Baillière, Tindall & Cox. London, 1917. Price 10s. 6d. net.

This is an excellent book. It is packed with information and its contents are not only interesting in themselves, but are written in an agreeable and interesting way. Well arranged, printed on good paper in a clear, bold type and with a full index, it will be enjoyed by a great variety of readers. It appeals to the scholar by its erudition and fresh literary style, to the medical historian, to the eugenist, to the ethnologist, and to all Jews, Christians, and Gentiles by its touches of humour, by its easy, familiar language, and by the light that it throws on the manners and customs of the most interesting of all races. No one concerned in child welfare should fail to read it. In its compact fulness and scholarship and in the abundance of its quotations it reminds one of Burton's 'Anatomy.'

The author has managed to give a pre-Raphaelite picture of Jewish life in which freshness and variety of colour are combined with a sort of philosophical detachment and great broadness of view.

The strong national and family feeling of the Jews is admirably portrayed and so are his inconsistencies—his hidebound conservancy on the one hand and his tendency to innovation on the other. Thus the Jews not only possessed a strong æsthetic sense and appreciation of vigour and intelligence, but understood the importance of heredity and of eugenics. Hence there were injunctions in the Talmud that in choosing a wife care should be taken that there was no epilepsy nor other hereditary taint in the family (p. 21), and there were other regulations that people with physical blemishes and imbeciles should not marry. Yet the Rabbis permitted the marriage of deaf mutes (p. 31), and the otherwise physically and mentally defective (p. 398) were so encouraged to marry together that they became far more numerous among Jews than among other races.

So also until recent times the Jewish race was strictly enjoined to multiply and to cover the face of the earth, and it was one of the most prolific. Yet now, "contrary to the general popular belief, the birth-rate among Jews is lower than that of non-Jews." This is partly due to the higher age of marriage among modern Jews and partly to town-dwelling. "Another probable cause in the case of Western Europeans and of American Jews is the deliberate limitation of the size of the family for economic reasons." These, however, are not the only causes, for "it is to be noticed that even in Eastern Europe, where the Jews are strictly orthodox, and, therefore, not only marry early, but do not restrict the size of their families, the birth-rate among them is smaller than among their non-Jewish neighbours (when calculated per 1000 population)" (p. 406).

The book contains many anecdotes, fables, myths, and pithy sayings which add to the interest and are pertinent to the subject in that they open a window into the Jewish mind. H. G.

REPORT ON THE PREVENTION OF MORTALITY AND DISABLEMENT DUE TO MEASLES AND PNEUMONIA IN CHILDREN. By A. SALUSBURY MACNALTY, M.D., with a Preliminary Memorandum on Administrative Measures against Measles, by S. W. WHEATON, M.D. London: H.M. Stationery Office. 1918. Price 1s. 6d. net.

DR. WHEATON's memorandum deals with the measures which should be and have been taken by sanitary authorities at the patient's home for preventing mortality and disablement from measles. Such measures consist in visits to the home made by the health visitor on receipt of the notification, especially if a doctor is not in attendance, nursing provision, and the provision of medical assistance.

The first part of Dr. MacNalty's report is devoted to measles. A statistical study of the mortality, incidence, and complications of the disease is followed by a discussion of statistical evidence with a view to remedial measures. The medical aspects of the problem are then considered, including the pathology, bacteriology, symptomatology, diagnosis, and treatment, special stress being laid on the importance of rigorous local antisepsis. Dr. MacNalty appears to accept the view of Thursfield, whose report was noticed some years ago (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1914, xi, p. 334), that a frequent cause of death is a broncho-pneumonia set up by the *Streptococcus pyogenes*, and that this probably originates in a septic condition of the mouth, fauces, and naso-pharynx.

Lastly, certain practical measures for preventing mortality and disablement from measles are considered, such as care of the patient at home, including after-care, institutional treatment, and treatment in a convalescent home. In the second part of Dr. MacNalty's report, which deals with pneumonia in children, the subject is also discussed under the three headings of Statistical Evidence, Medical Aspects, and Practical Measures. The writer regards the results of vaccine and serum therapy in pneumonia as disappointing, and considers that the reduction of child mortality must chiefly depend on preventive measures and skilled attendance in the course of the disease. J. D. R.

161.

THE
BRITISH JOURNAL
OF
CHILDREN'S DISEASES.

Vol. XV. JULY—SEPTEMBER, 1918. Nos. 175-177.

Original Articles.

PARATYPHOID FEVER IN CHILDREN.*

By E. Stolkind and A. Lorey,
Moscow and Neri, Italy.

Paratyphoid fever in children is not so rare as the current literature and text-books would suggest. Thus, Rimpau, on bacteriological examination of 122 infants up to 1 year old with clinical symptoms of dyspepsia, acute and chronic gastro-intestinal catarrh and dysentery, found *Bacillus paratyphosus* or Gaertner's bacillus in 9 cases. Gildemeister and Baertlein, on bacteriological examination of 70 babies with intestinal catarrh, found *B. paratyphosus* in 4 cases.

Historical Note.

In 1896 the French physicians, Achard and Bensaude, reported two cases under the name "infection paratyphoidique," caused by "*Bacilles paratyphiques.*" Subsequently analogous cases were described in America by Gwyn, Cushing, etc., in Germany by Schottmüller (1900), Kurt, etc., in England by Graig and White, Savage, Cautley, etc., and in Russia by Beliaev, Poggenpol, Stolkind, etc.

Schottmüller recognised two kinds of *Bacilli paratyphosi.*

The following clinical classification of paratyphoid fever was proposed by one of us (Stolkind) many years ago: (1) Typhoid form, (2) gastro-intestinal form, (3) choleraic form, and (4) respiratory or influenzal form. There may be also atypical cases. Clinically and pathologically there is no difference between paratyphoid A and B, which vary only bacteriologically. Paratyphoid C and D have been observed in a few cases, and have only a bacteriological interest.

---

* This article is written by E. Stolkind; the cases cited were observed by E. Stolkind and A. Lorey.

MORBID ANATOMY.

Reports of cases of paratyphoid fever in children, with autopsies, are very few in number. Such cases, therefore, have a certain interest, and we will first record our own cases with the post-mortem examination made by Dr. Fraenkel.

The bacteriological examination of the blood, stools, urine, etc., in our cases was made according to the usual methods. The blood was taken from a vein (or post mortem from the right heart), mixed with bile-agar, etc., and the *B. paratyphosus* was then isolated and differentiated in the usual manner by making plates of Drigalski-Conradi and other media of the coli-typhoid group.

CASE 1.—A very weak male infant, aged 9 months, with severe rickets. The illness began with diarrhœa, cough, and bronchitis; later broncho-pneumonia developed. The last six days numerous liquid, green stools occurred; temperature 101·3°–103·8°F. *Autopsy:* Follicular enteritis, broncho-pneumonia in both lungs. Blood-culture and agglutination showed *B. paratyphosus* B.

CASE 2.—A female infant, aged 5 months, with atrophy and severe rickets. The baby was recovering from chickenpox, had had normal stools and temperature for three weeks, and gained over 1 lb. in weight. In the last seven days she had had fever (102°–104·5° F.), diarrhœa (between eight to ten liquid and fœtid stools), and a pulse of 100–120. Weakness increased and death took place. *Autopsy:* Mild form of follicular enteritis with swollen mesenteric glands. *B. paratyphosus* B was cultivated from the blood; positive agglutination (1 : 16,000).

CASE 3.—A miserable-looking girl, aged 9 months, suffering from rickets and atrophy. On the third week of whooping-cough bronchitis and fever appeared, and lasted ten days; later, after nearly five weeks of normal temperature (*i. e.* on the eighth week of whooping-cough) the temperature rose again (100·4°–101·8° F.), pulse 120–132, there were liquid green stools for a week, and then death took place. *Autopsy:* Follicular enteritis. Blood-culture and positive agglutination (1 : 16,000) showed *B. paratyphosus* B.

Case 4.—A badly-nourished and very rickety girl, aged 10 months, suffering from whooping-cough and later from bronchitis. After eleven days of normal stools and temperature numerous liquid green stools, fever (100·8°–105·1° F.), and broncho-pneumonia occurred during the last twelve days of life. *Autopsy:* Severe follicular enteritis; broncho-pneumonia in both lungs; severe rickets. *B. paratyphosus* B and pneumococci were isolated from the blood; positive agglutination (1 : 16,000).

This child was probably infected with paratyphoid by Case 3, who was in the ward at the same time.

Case 5.—A rickety girl, aged 1 year and 3 months, suffering from whooping-cough, bronchitis, and fever. In the last thirteen days numerous liquid, green stools; in the last five days broncho-pneumonia. The temperature gradually rose from 99·7° to 104·4° F.; pulse 120–140. *Autopsy:* Follicular enteritis; laryngitis; tracheitis; multiple areas of broncho-pneumonia in both lungs; severe rickets. Blood-culture and positive agglutination (1 : 2000) showed *B. paratyphosus* B.

This case was probably infected by Case 4.

Case 6.—A badly-nourished girl, aged 5 months, suffered with diarrhœa and cough about four days. On admission to hospital she presented much meteorism, diarrhœa, broncho-pneumonia, and a palpable spleen. Temperature 102·2°–107·2° F. Death took place after three days. *Autopsy:* Follicular enteritis; multiple areas of broncho-pneumonia in both lungs; enlargement of the spleen. Blood-culture and positive agglutination (1 : 10,000) with patient's own bacilli showed paratyphoid B.

Case 7.—A well-developed boy, aged 8 years. The illness began with lassitude, coryza, and cough; on the third day measles eruption, and fever; on the fourth day diarrhœa. His sister was suffering from measles at the same time. On admission to hospital on the sixth day the boy looked very ill and pale; complete stupor, restlessness, delirium, meningeal symptoms (slight Kernig, nuchal rigidity), swollen and inflamed tonsils, severe bronchitis, meteorism, albumin in urine; liquid yellow stools, fever (104° F.). A nearly pure culture of *B. paratyphosus* B was obtained from the stools and from the blood. Leucocytes 7800. On the eighth day great cyanosis and more pronounced meningeal symptoms. On lumbar puncture the cerebro-spinal fluid showed only slight hypertension and no abnormal elements. In the last two days broncho-pneumonia of both lungs, subsultus tendinum, and restlessness. Death took place on the ninth day. *Autopsy:* Confluent broncho-pneumonia in both lungs; exudative bronchitis; purulent otitis media; external hydrocephalus. In the ileum the mucous membrane appeared slightly thickened; Peyer's patches slightly swollen; raised solitary follicles, and of the same colour as the surrounding tissue. In the cæcum the mucosa was pale, grey, and shiny. There was a slight injection of the ascending and descending colon. The heart blood, bone marrow, meninges, and spleen showed a pure culture of *B. paratyphosus* B. The pus of the ear showed paratyphoid B bacilli, and pneumococci. Agglutination positive (1 : 5000).

This case has a special interest: (1) It was an instance of mixed infection of measles, paratyphoid B, and otitis media, with *B. paratyphosus* B and pneumococci in the pus. The *B. paratyphosus* B in stools (in almost pure culture), in blood, bone marrow, spleen, and pus, the positive agglutination, diarrhœa during the illness, and the pathological changes in the intestine, etc., prove that it was a case of measles, in the course of which the paratyphoid infection occurred. The pathological lesions found at the autopsy resembled those which are often observed in the first week of typhoid fever, and belong to the so-called transitional form.

Case 8.—A very rickety girl, aged 1 year. The illness began suddenly, and on the fourth day sore throat, broncho-pneumonia, and meteorism were observed. On the eighth day red spots appeared on the face, and on the ninth day an eruption like measles was noticed on the whole body, and disappeared on the same day. There were typhoid state with stupor, coated tongue, tonsillitis, liquid stools, diffuse bronchitis, and broncho-pneumonia in both lungs; pulse 150, temperature 102·6°F. On the tenth day prostration was more pronounced. Blood-culture and positive agglutination showed *B. paratyphosus* B. On the last day (eleventh) some meningeal symptoms (convulsions and nuchal rigidity) were noticed; temperature 105·8 °F. *Autopsy:* Extensive broncho-pneumonia in both lungs; rickets; no pathological changes in gastro-intestinal canal. *B. paratyphosus* B was cultivated from the heart blood; positive agglutination.

This case was a rare example of paratyphoid fever with a morbilliform eruption.

Case 9.—An anæmic and very rickety girl, aged 2½ years. The illness began with whooping-cough, during which time measles, complicated with double purulent otitis media, occurred. After the temperature had been normal for one day, fever set in and continued until death on the tenth day. In the last seven days diarrhœa, bronchitis, and broncho-pneumonia were observed. *B. paratyphosus* B was cultivated from the blood and the stools; positive serum reaction. *Autopsy*: Severe rickets; broncho-pneumonia; gastro-intestinal canal completely normal. *B. paratyphosus* B was again isolated from the heart-blood; positive agglutination.

This was an instance of mixed infection of whooping-cough, measles complicated with purulent otitis media, and paratyphoid fever. The last infection proved fatal to the child, weakened by the two previous diseases.

CASE 10.—A feeble, pale, badly-nourished girl, with severe rickets, aged 2 years. The illness began suddenly with dyspnœa. On admission to hospital on the fourth day broncho-pneumonia was found in the left lung and on the next day in the right also; von Pirquet reaction was positive. Leucocytes 7000. Temperature 97°, 104·4°, 106·2° F.; pulse 170. *B. paratyphosus* B was isolated in pure culture from the blood. On the ninth day of the illness weakness, dyspnœa, and cyanosis increased, and death took place. *Autopsy*: Confluent broncho-pneumonia in both lungs; tuberculosis of bronchial glands; severe rickets. Gastro-intestinal canal normal. At the autopsy the paratyphoid B bacillus, pneumococcus, and *Staphylococcus pyogenes aureus* were isolated from the bile as well as from the blood. The pneumococcus was also cultivated from the lungs.

In all probability this was a case of mixed infection with broncho-pneumonia from the first.

CASE 11.—A male infant, aged 1 year, was admitted to hospital with cyanosis, dyspnœa, bronchitis, signs of pneumonia, enlarged spleen, and meteorism. During the last two days meningeal symptoms appeared, and tubercles were diagnosed in the choroid. Temperature between 98·6° and 102·3° F. Leucocytes 29,500, 23,700, 27,000, 29,800. Death from tuberculosis on the eleventh day after admission. *Autopsy*: Acute miliary tuberculosis. Nothing abnormal in gastro-intestinal canal. Blood-culture and positive agglutination showed *B. paratyphosus* B.

This was in all probability a case of miliary tuberculosis with paratyphoid as a secondary infection.

Thus, we see that pathological changes in the gastro-intestinal canal in children were observed only in the first 7 of our cases; in the 4 other cases no pathological lesions were found in the gastro-intestinal canal. In the first 6 cases, in which follicular enteritis was observed at the autopsy, it was severe only in Cases 4 and 5. In Case 7 swollen Peyer's patches and solitary follicles, *i. e.* changes like those in the first week of typhoid fever, were found. Swollen mesenteric glands were found in Case 2; enlarged spleen only in

Case 6; broncho-pneumonia in 8 cases. Mixed infection was observed in 8 cases.

In the literature we could find only the following cases of post-mortem examination of children with paratyphoid fever:

In Vagedes' case of a boy, aged 14 years, swollen Peyer's patches were noticed. In the case of Count and Kirby, of a baby, aged 4½ months, swollen lymphatic glands in the small intestine, enlargement of the spleen, and swollen mesenteric glands were found. In two cases of Arzt and Boese in a 7 weeks old baby, in one 5 months old, with signs of cerebro-spinal meningitis, diffuse catarrh of the intestine with slight enlargement of the Peyer's patches and solitary follicles were observed post mortem; positive agglutination was found in only one case.

Wollenweber, Dorsch, and Matthes described a case of paratyphoid B in a child, aged 2½ years, in which swelling of the gastric mucosa, slightly swollen solitary follicles in the intestinal canal, and slightly enlarged spleen were present. In Inoue's case in a child, aged 10 years, swollen follicles in the intestine, and especially in ileo-cæcal part, and slightly enlarged spleen were found. In Breunig's case in a child, aged 1 year and 3 months, with enteritis and meningeal symptoms, enteritis, especially of the colon, and slightly enlarged solitary follicles and mesenteric glands were observed. In Mayerhofer's case, in an infant, aged 5½ months, enteritis and swollen mesenteric glands were found. In Longer and Thomann's case, in a boy, aged 7 years, severe gastro-enteritis and nephritis were observed. In Rings' case, in a girl, aged 8 years, perforation of the appendix, pus in the abdominal cavity, swollen mesenteric glands corresponding to the cæcum and ileum and enlargement of the spleen were found. In Trautmann's case, in a boy, aged 9 years, swelling of the mucous membrane of the intestine was found; the autopsy took place four days after death; *B. paratyphosus* B was isolated from the spleen. In Appiani's case, in a boy, aged 8 years, swelling of the mucous membrane of the small intestine, some swollen Peyer's patches, acute nephritis, and enlargement of the spleen were observed. Baginsky's first case, in a girl, aged 4½ years, showed (*a*) in the colon swollen Peyer's patches and solitary follicles, some of which were ulcerated; (*b*) parenchymatous hepatitis, myocarditis, etc.

This case is not sufficiently proved: *B. paratyphosus* B was obtained at the autopsy, and the serum reaction during life was twice negative. In the second case of Baginsky, in a girl, aged 2 years, pathological changes like those of septicæmia were noticed;

B. paratyphosus B was isolated from the blood as well as from the pus of one abscess. In Jochmann's case, in a girl, aged 7 years, with scarlatina, streptococci and *B. paratyphosus* B were obtained; the autopsy showed enlargement of the spleen and mesenteric glands. In the case of Eckert, in an infant, aged 9 months, nodular enteritis, purulent otitis media, purulent meningitis, and enlarged liver were found; streptococci and *B. paratyphosus* A were isolated from the blood. In the case of Hetsch there was no proper autopsy. In the cases of Papenheimer and Bonhof no pathological changes in the gastro-intestinal canal were found. In the cases of Appiani, Baginsky, Jochmann, and Eckert paratyphoid infection was a secondary one.

A study of the results of post-mortem examinations of paratyphoid cases in children and adults, including those reported in literature and our own cases, shows that the morbid changes have been observed resembling (1) typhoid fever; (2) acute enteritis, acute gastro-intestinal catarrh, or acute gastritis, etc.; (3) dysentery; (4) those of a transitional form, *i. e.* inflammation of the intestinal lymphatic apparatus (swollen follicles and Peyer's patches, etc.); (5) septicæmia. In some cases no changes in the gastro-intestinal canal were found.

It may be mentioned here that not only in paratyphoid fever, but also in typhoid, especially in children (even in cases of long duration), characteristic pathological changes in the intestinal canal are not always present. We have not been able to find a single recorded case of proved paratyphoid in a child in which the lesions, at the autopsy, resembled those typical of typhoid fever.

INTRA-UTERINE INFECTION WITH PARATYPHOID BACILLI.

In paratyphoid fever as well as in typhoid, and, as one of us (Stolkind) observed, in relapsing fever, an interruption of pregnancy may occur. The *B. paratyphosus* may pass from the mother's blood to the fœtus (intra-uterine paratyphoid infection). We shall briefly describe our case of intra-uterine infection with *B. paratyphosus* B in the blood of a newborn child.

CASE 12.—A baby was born after premature instrumental delivery. The weight of the child was a little over 4 lb., and its length 18⅞ in. The baby died after nineteen hours from debility. At the autopsy only hyperæmia of epiglottis was observed; all the other organs were normal. The blood-culture and positive agglutination (1 : 16,000) showed *B. paratyphosus* B. The mother, a woman aged 44 years, had had acute gastro-enteritis with fever some time before.

In the literature we could find only the following analogous cases:

In Nauwerk and Flinzer's case the baby died of melæna neonatorum thirty-six hours after birth. At the autopsy, slight enlargement of the spleen, swelling and redness of the gastric mucosa with numerous erosions, hæmorrhagic diathesis, etc., were found. Paratyphoid B bacilli, staphylococci, and *B. coli* were isolated from the blood; positive agglutination.

Schmidt isolated from the blood of an infant, on the first day of its life, *B. paratyphosus* B and streptococci, and on the fifth day (*i. e.* last) *B. paratyphosus* B from the stools and from the heart blood. Agglutination was negative; the mother had paratyphoid B.

Yamada and Doi obtained *B. paratyphosus* B from the heart blood, spleen, and intestine of a fœtus; the mother had paratyphoid B.

THE CLINICAL FORMS OF PARATYPHOID.

As the result of his own observations and a study of almost all the original articles in the English, American, French, Russian, Italian, and German literature, one of us (Stolkind), many years ago, adopted the following clinical classification: (1) The typhoid form; (2) the gastro-intestinal form; (3) choleraic form; (4) respiratory or influenzal form. We must add that the clinical classification of paratyphoid, as in most other diseases, is (1) schematic; (2) mostly based not only on pathological, but also on clinical symptoms; (3) that it is not rare to find atypical cases or transitional forms in which the illness begins with a combination of two of them or with one form, which changes later into another one. There may be various types of paratyphoid fever—ambulatory, abortive, mild, severe, etc.

Sometimes paratyphoid fever may resemble malaria (Carducci, Stolkind), septicæmia, etc.

Besides the four principal forms we also meet with paratyphoid infection of separate organs, which may be called, for example, appendicitis paratyphosa, cystitis, pyelitis, or cystopyelitis paratyphosa, cholecystitis paratyphosa, meningitis paratyphosa, spondylitis paratyphosa, etc. (*vide* our Cases 21 and 22).

Paratyphoid fever may appear also as a secondary disease, as in Case 11, and in cases reported by Baginsky, Jochmann, Schottmüller, etc.

I. *Typhoid Form of Paratyphoid Fever.*

The following cases of ours are examples of this form:

CASE 13.—A boy, aged 1 year. The illness began with measles, but after the disappearance of the measles eruption the temperature did not fall and remained high for seventeen days. During this time the child showed a typhoid state, diarrhœa, and meteorism for some days, and an enlarged and palpable spleen. No rose spots. The clinical diagnosis was measles and typhoid fever. But in the third week of the second infection paratyphoid B bacilli were isolated from the blood, and there was a positive Widal's reaction with these as well as with laboratory bacilli. The illness ended by lysis in the course of a week.

The clinical symptoms even during the same epidemic may vary, just as was the case with the following six children in the same family:

Case 14.—A girl, aged 11 years. The illness started about six to seven days before with great lassitude, nausea, vomiting, and headache. Slight bronchitis. Leucocytes 11,200. The fever (100°–102·6° F.) lasted about fifteen days. Blood-culture showed *B. paratyphosus* B.

Case 15.—A boy, aged 4 years. About eight days previously the mother noticed anorexia, somnolence, apathy, and nausea. Typhoid state with slight stupor; positive diazo-reaction; blood-culture showed *B. paratyphosus* B. Leucocytes 6100. The fever lasted about ten days.

Case 16.—A girl, aged 1½ years, fell ill about seven days before admission to hospital with general weakness, anorexia, diarrhœa, fever, etc. Slight ileo-cæcal gurgling and bronchitis; typhoid state and irregular temperature for fifteen days. Blood-culture showed *B. paratyphosus* B.

Case 17.—A boy, aged 12 years. Typhoid state and fever for about eleven days; slight ileo-cæcal gurgling; positive diazo-reaction. Leucocytes 5000; bradycardia, *e.g.* pulse 64 to 68, with a temperature of 101·1°–101·5° F.

Case 18.—A boy, aged 4 years. Slight typhoid state, two rose spots. Leucocytes 5800; fever lasted about ten days.

Case 19.—A boy, aged 8 years. Mild typhoid state with stupor; slight bronchitis. Leucocytes 6000; the fever lasted about ten days; bradycardia only during one day (pulse 68, temperature 100·9° F.).

The illness began in all the six children gradually with general weakness, headache, anorexia, and lassitude, followed by a typhoid state. A typhoid state and diarrhœa were observed in Case 16 only. Nausea was observed in 2 cases; nausea and vomiting in Case 14; rose spots (two only) in 1 child; ileo-cæcal gurgling in 2; bronchitis in 3; irregular temperature in 1. The fever lasted from ten to fifteen days, ending by lysis in two to three days. Pronounced bradycardia was found only in the boy aged 12 years and during one day in Case 19. There was a positive diazo reaction in 2, leucopenia in 5. *B. paratyphosus* B was isolated from the blood of 3 children; the cultures from the blood of the other 3 cases remained sterile; the cultures from the fæces and urine were sterile in all 6 cases. Widal's serum reaction with the bacilli isolated from the blood of three of these children, as well as with laboratory ones, was positive in all six children at the beginning of the fourth week, being negative in the second week.

Cases of the typhoid form of paratyphoid have been described by many authors (Schotmüller, Lentz, Konrich, Stolkind, etc.).

II. *Gastro-intestinal Form of Paratyphoid Fever.*

The symptoms of this form simulate acute gastro-intestinal catarrh, acute enteritis, follicular enteritis, or dysentery, and in exceptional cases acute gastritis. Cases of paratyphoid in young children, with symptoms like enteritis, are described above (*vide* Cases 1–8). In one of our cases vomiting with abdominal pain and perspiration were the principal symptoms in the first days of the illness. Lentz described a case of paratyphoid B in a baby, aged 14 days, who was infected by his sisters, and in whom vomiting was the predominating symptom in the course of the illness. In many of our cases, as well as those of other authors, the illness began suddenly with vomiting, nausea, diarrhœa, fever, sometimes with pains in the abdomen, limbs, shivering, etc. In young children a convulsion sometimes occurs at the onset. In some cases the illness begins with signs of gastro-intestinal catarrh, which later disappear, and the predominant symptoms then resemble those of typhoid fever.

We will describe here a case of paratyphoid B, which at the beginning of the illness, before bacteriological examination, one of us (Stolkind) diagnosed as dysentery. This case we believe to be up to the present the only one on record of a child having paratyphoid being infected by measles; but in the cases reported by other authors, as well as in other cases of ours, the contrary took place, *i.e.* paratyphoid appeared during measles.

Case 20.—A weakly boy, aged 1 year, was suddenly attacked with fever and diarrhœa (liquid, green stools with mucus). On the second day there was frequent desire to go to stool, with straining, tenesmus, with mucus and blood, and afterwards with blood and pus in the stools, prolapse of the rectum, great apathy and weakness, bronchitis, and slightly enlarged spleen and liver. Positive diazo-reaction; leucocytes 11,500. On the fifth day of the illness *B. coli* only was found in the stools; from the eighth day of the illness till the period of recovery from the complications of the second infection (measles) only *B. paratyphosus* B was found after repeated bacteriological examination. In the period of recovery only *B. coli* was isolated again. Widal's serum reaction was positive with the child's paratyphoid bacilli, as well as with the laboratory ones. Blood and pus disappeared from the stools on the twenty-third day, and diarrhœa ceased the fortieth day. On the eleventh day of the "paratyphoid dysentery" the baby, who began to improve, was infected with measles, and fourteen days later all the typical symptoms of measles appeared, viz. laryngo-tracheitis, bronchitis, conjunctivitis, characteristic eruption, high fever for nine days, etc. This was followed by various complications, viz. very severe ulcerative stomatitis, pneumonia, heart failure, and myocarditis, with dropsy of the legs, very great enlargement of the liver, etc. Convalescence was established after twelve weeks.

In another of our cases of acute dysentery numerous *Amœbæ dysenteriæ* in the fæces were found during life, and post mortem pure cultures of *B. paratyphosus* B were isolated from the blood, the pus of the spleen, and abscesses of the liver; positive agglutination (1 : 16,000). The autopsy showed dysentery (amœbic colitis) with metastatic abscesses of the liver and kidneys, enlargement of the spleen, and degeneration of the myocardium. Afterwards Nishino reported a case of diarrhœa with blood and mucus in a boy, aged 8 years, with *B. paratyphosus* B in the fæces.

III. *The Choleraic Form.*

This form closely simulates cholera nostras or cholera Asiatica. For example, in one of our patients the illness began with great lassitude, vomiting, and very frequent liquid stools, which later assumed the rice-water appearance. The patient presented great apathy, dry skin, cold and cyanotic extremities, husky voice; temperature, 99° F. on the third day, and 98·2° F. on the fourth day; very painful cramps in the calves, very weak pulse, and heart-sounds. No *Vibrio choleræ. B. paratyphosus* B (almost in pure culture) was isolated from the fæces and urine. Complete recovery.

In our other cases abdominal pains, cramps in the arms and calves, sunken face and eyes, stupor, etc., as in cholera or cholera nostras, were observed. But instead of *Vibrio choleræ, B. paratyphosus* B was found. Analogous cases were described by Lentz, Hetsch, Gaffky, Jacobson, Bracht, Kutscher, Stolkind, Schottmüller, Berger, Baur, Mayer, etc. The case of Mancini of paratyphoid and cholera in a boy, aged 14 years, is not proved.

IV. *Influenzal or Respiratory Form.*

Many years ago one of us (Stolkind) described a special form of paratyphoid fever, which he proposed to call the *influenzal form* (*respiratory paratyphoid*), and which clinically does not differ from respiratory influenza. His first case showed a sudden onset with coryza, cough, sore throat, headache, lassitude, and moderate fever; later appeared slight enlargement of the spleen, several spots on the abdomen, and irregular fever for two weeks. Bacteriologically, it was found to be paratyphoid B (Pfeiffer's influenza bacillus was absent). In another case the illness began suddenly with shivering, headache, great malaise, conjunctivitis, coryza, sore throat, and bronchitis; later, the course of the illness was more like typhoid fever. In another case the illness began suddenly with sore throat, tonsillitis, laryngitis, diarrhœa, abdominal pain, etc. In another case there was a sudden onset with broncho-pneumonia. Such cases of respiratory paratyphoid were also observed by other authors—Allen, Baer, Beliaiev, Grenet and Fortineau, Lentz, Miller, Reuss and Schiller, Rimpau, Wilucki, etc. In the case of Beliaev (paratyphoid B) the illness began with coryza, sore throat, cough, bronchitis, fever, etc. Miller observed many cases of respiratory paratyphoid in English soldiers. Wilucki observed seven cases of paratyphoid B in which the illness began suddenly with shivering, fever, lassitude, coryza, sore throat, bronchitis, conjunctivitis, headache, etc. Wilucki, etc., call this form of paratyphoid "influenza paratyphosa Stolkind."

LOCAL INFECTION.

The following two cases illustrate this variety:

CASE 21.—A girl, aged 15 years, was admitted to hospital with an attack of eclampsia at the beginning of labour. After the birth of the child she had fever (remittent and intermittent) for thirty-one days. Later two relapses were observed, with remittent and intermittent fever (104° and 104·5° F.), lasting six and fifteen days, with apyrexial intervals of sixteen and thirteen days respectively. Repeated blood-cultures remained sterile. Leucocytes and *B. paratyphosus* B were discovered in the urine. Agglutination was positive with the patient's bacilli (1 : 5000) as well as with laboratory ones (1 : 1250). Complete recovery took place after three months, but the patient remained a carrier of *B. paratyphosus* B in her urine.

CASE 22.—Boy, aged 17 years. The illness began suddenly with fever and severe pain in the region of the right kidney. There were bronchitis, leucocytosis (11,000 to 22,000), pain, malaise, and remittent and intermittent fever for more than three weeks. A pure culture of *B. paratyphosus* B was isolated from the urine. This case of pyelitis paratyphosa was discharged from hospital as a carrier of *B. paratyphosus.*

Analogous cases were reported by Schottmüller, W. Drought and Kennedy, etc.

MIXED INFECTION.

In paratyphoid fever, just as in many other infectious diseases, one or more other infections may appear simultaneously.

We have already described many examples of the kind, viz. paratyphoid with measles, scarlatina, diphtheria, chickenpox, whooping-cough, tuberculosis, amœbic dysentery, etc. In one of our cases, at first Flexner's *B. dysenteriæ* and later *B. paratyphosus* A were isolated from the stools; in another case, *B. paratyphosus* B and *B. emphysematosus* were found. Many such cases have been reported by other writers. We could not, however, find in literature a single genuine case of mixed infection of paratyphoid and typhoid in a child. The cases described by Beckers, Mori, Watt, etc., were examples of a simple typhoid or paratyphoid infection with coagglutination or accidental presence of typhoid bacilli in cases of paratyphoid and *vice versâ.* The following was an example of coagglutination by paratyphoid: In one of our cases of the typhoid form of paratyphoid B. the *B. paratyphosus* was at first isolated from the blood and was absent in the fæces and urine. Two days later it was cultivated from the rose spots and was absent in the blood. Widal's serum reaction was positive (1:80) on the twelfth day with *B. typhosus* only, on the nineteenth day with *B. typhosus* (1 : 80) and with the patient's own *B. paratyphosus* (1 : 640), on the forty-seventh day with his own bacilli (1 : 1660) and with *B. typhosus* (1 : 50).

ÆTIOLOGY.

We will now mention some peculiarities of the ætiology of paratyphoid fever. The *B. paratyphosus* can live in dry sand not more than eight hours, and in moist sand more than sixty days (Bitter). It dies in a temperature of 76·6° to 100° C. after a short time. According to Rondoni it cannot live in the sun for four hours. Mayer found it still viable in dry fæces kept in a dry and dark place for one and a half years. Paratyphoid bacilli have been found in water (Brinckmann, Conradi, Mayer, Paladino-Blandini, Prigge, Sacquépée, and Chevrel); in ice (Conradi, Rommeler); in milk (Hübener); and in boiled meat sausages (Uhlenhut and Hübener).

In one of our cases the patient was probably infected through swallowing pieces of ice. Paratyphoid infection occurs generally either through contact with acute, temporary, or chronic carriers, or through food, drink, etc., infected by them directly or indirectly. Paratyphoid infection through contact was, for example, observed in two of our patients, who lived in the same room and who afterwards infected their nurse, in Cases 4, 5, and in Cases 14–19. Cases of contact infection were reported by Blühdorn (in a breast-fed infant, aged 12 weeks), Fortineau and Riberau (in a child, aged 4 months), and by Hillgermann, Prigge, Sachs-Mücke, Fornet, Krause, Rimpau, etc. Cases of paratyphoid infection by intestinal or urinary carriers were described by Lentz (in a child, aged 6 years), by Rimpau (in a boy, aged 13 years, and a child, aged 10 years, infected by his mother), and by Ustvedt (infection of many school children by a woman servant, who was an intestinal carrier), etc. Some of our patients remained carriers (*e. g.* Case 21, a urinary carrier). Carriers of paratyphoid bacilli have been reported by Bainbridge and Dunfield, Clemens and Galvey (paratyphoid A urinary carrier), Conradi, Firth, Gaetgens, Grattan and Wood, Harvey, Hilgermann, Kayser, Küster, Raichman, Porter and Tromsdorf, etc. The monographs of Ledingham & Arkwright and Stolkind should also be consulted. Epidemics of paratyphoid fever through food infection were described by Bernstein and Fisch (sixty persons through eating pie); Curschmann (twenty-two persons through pudding); Jacob (through sausages); Kutscher (ninety cases through infected meat); Langer and Thomann (eleven persons through flour); Levy and Fornet (through gruel with vanilla); Mosenbach and Schmidt (through pie); Prigge (through cake); Quadflieg (203 cases); as well as Tromsdorf, Raichman and Porter (more than 100 cases through pork pies); Vagedes, as well as Walker (through cake), etc.; Fischer, Ustvedt, etc. (contaminated milk); many other authors through cheese, fish, etc.

Experiments on animals (Fraenkel and Much, Metchnikov and Besredka, Ribadeau-Dumas and Harvier, Siciliano, etc.), as well as clinical observations, show that *B. paratyphosus* can escape from the carriers by the fæces, urine, and pus, and can infect food, milk, etc., and by these means or by infected hands can infect another person. The paratyphoid bacilli gain entrance in all probability through the mouth, and are detained partly in the tonsils and pharynx (thus giving rise to sore throat, respiratory paratyphoid, etc.), then pass into the blood and the lymphatic apparatus of the intestinal canal and other organs.

The clinical symptoms will largely depend upon the means by which the paratyphoid bacilli are introduced, upon the quantity and quality of the bacilli (virulence, type, etc.), their toxins, individuality (immunity, predisposition, strength, etc.).

SYMPTOMATOLOGY.

The incubation period varies from two to seven days; it is seldom longer, and only in some cases of so-called food poisoning it may last even less than twenty-four hours. The onset may start abruptly, or more often gradually. A typhoid state was observed in nearly 25 per cent. of our cases, and in those of other authors to a more or less degree. The typhoid form of paratyphoid occurs in infancy generally with the same symptoms as in typhoid fever. But this form, which is mostly mild, not infrequently presents certain peculiarities which are exceptional in cases of typhoid, as, for example, nasal and labial herpes, perspiration, sudden onset, with very high temperature from the first, initial shivering, etc. In young children convulsions instead of shivering may sometimes be observed. Herpes labialis or nasalis seldom occurred in our cases, or in those of Ring's, etc., but other authors (Lentz, Cannata, etc.) have observed it more frequently.

Perspiration may occur in the first few days and last during the entire illness. In one of our cases of paratyphoid B, in a boy, aged 6 years, with malaise, headache, swollen cervical glands, 13,000 leucocytes, fever during fifteen days, etc., extreme perspiration was observed during the whole illness. Perspiration was also noticed in many other cases of ours, as well as of those of other authors (Lentz, etc.). Sometimes sudamina appear. The form of typhoid, described as "sudorale" by Jaccoud, probably was paratyphoid fever or a mixed infection of influenza and typhoid fever (Stolkind), or malaria and typhoid (Laveran, Lashkevich, etc.).

An eruption may occur in every clinical form (in about 50 per cent. of our cases). As a rule, it appears at the end of the first week or during the second, but in rare instances during the first days of the illness, or during the third or even the fourth week (in one of our cases on the twentieth day). There may be only a few rose spots (in one of our cases there were only two rose spots), or plenty on the abdomen or on the whole body (in one of our cases it was like typhus). The rash may in some cases resemble urticaria, scarlatina, or measles (*vide* Case 8), as in some of our cases, as well as in those of Konrich, Lentz, Meslay and Coville, Schottmüller, etc. In some instances it may be difficult to decide whether the rash is caused by paratyphoid itself or by mixed infection of paratyphoid with measles, scarlatina, etc. The following case of ours is an example:

Case 23.—A boy, aged 2 years and 9 months. The illness began with measles, and six weeks later a new, severe, mixed infection (paratyphoid fever, scarlatina, and diphtheria) occurred. Diphtheria bacilli and streptococci (erysepelatosi) were cultivated from the nose and tonsils; antitoxin treatment. On the next (sixth) day complete stupor, Cheyne-Stokes' respiration, etc., were observed; an eruption appeared on the arms and the face and on the following day on the greater part of the trunk. It was difficult to say if this rash indicated the paratyphoid infection or the "serum disease."

Repeated blood-cultures showed in the first nine days *B. paratyphosus* B, but later they remained sterile. The following complications took place: Much loss of tissue of the hard and soft palate, severe collapse, hæmorrhagic nephritis (thirty-fourth day), and pneumonia (fifty-fifth day). Complete recovery took place.

The temperature is nearly always raised, and only in the choleraic form it may be normal or even subnormal. The duration of the fever varies from a few days to eight and even more weeks; generally the fever lasts from one to three weeks. The temperature curve may be like that of typhoid fever or irregular and even intermittent, as in malaria. In one case of paratyphoid B described by one of us (Stolkind) in a boy, aged 12 years, the temperature was 98·6° to 99·1° F. in the morning and 101·8° to 104° F. in the evening during twenty-two days, and perspiration often occurred. No *Plasmodium malariæ* was found.

The fever is more liable to terminate by lysis, and generally in two to three days, though it may end not uncommonly by crisis in one day.

Abdominal distension is observed generally as a result of unsuitable food. Ileo-cæcal gurgling is frequent. Not infrequently we found abdominal pain and tenderness. There may be constipation in the early days of the disease or in the period of convalescence. In one of our cases coprostasis was observed in convalescence.

Enlargement of the spleen occurred in nearly 50 per cent. of our cases, and sometimes from the first. The liver was swollen in a few of our cases, and generally in patients with a weak heart.

Bradycardia and dicrotic pulse are not very frequent in children. Leucopenia, which was observed in many of our cases, often varies in the course of the illness. Thus the leucocyte count in one of our cases of paratyphoid B in a girl, aged 15 years, with pulmonary tuberculosis of the right apex, was, on the seventh day, 5200;

on the eighth and ninth, 4000; on the tenth, 7000; and on the twelfth, 3800. The diazo reaction is not frequent. Considerable loss of hair is a rare sequel. Relapses were seldom observed by us or by other authors; they are usually without complications, and usually resemble an ordinary attack of paratyphoid fever.

Complications.—We observed in our cases of paratyphoid various complications, *e. g.* tonsillitis, abscess of the tonsils, phlegmon of the palate, swollen cervical glands, laryngitis, tracheitis, bronchitis, broncho-pneumonia, pneumonia, pleurisy, and empyema (with paratyphoid B bacilli in the fluid), pulmonary infarction, endocarditis, myocarditis, venous thrombosis, and purulent thrombophlebitis of the femoral vein, retention of urine, cystitis, nephritis, meteorism, jaundice, intestinal hæmorrhage, appendicitis (in one case gangrenous appendicitis and purulent peritonitis), ptosis, delirium, psychoses, epileptiform attacks, meningeal symptoms, external hydrocephalus, abscesses of the skin (with *B. paratyphosus* in the pus), inguinal bubo, arthritis of the wrist joint and interphalangeal joints (in one case), purulent otitis media (with *B. paratyphosus* B in the pus), parenchymatous degeneration of many internal organs, etc. One of our cases, a child, aged 3 years and 9 months, showed spondylitis paratyphosa.

Our own cases, as well as those described by other writers, show that paratyphoid fever presents the same complications as typhoid fever. The following complications in children have been described by other authors: Paratyphoid bacilli were isolated by Achard and Bensaude from a sterno-clavicular abscess in a child, aged 6 months; by Breunig from the shoulder-joint of a six months old baby; by Aoki from osteomyelitis of humerus in a child, aged 1 year; by Kapsenberg from an abscess of the shoulder in one year old child; by Frank from the pleuritic fluid in a child, aged 2 years; by Walther from the pus of appendicitis in a girl, aged 13 years; by Nauwerk and Flinzer from the pus of otitis media in an infant 36 hours old. Other complications were described by Doelemann (a doubtful case of "arthritis serosa sinistra" in a 3 months old baby), Tillgren and Troell ("arthritis tarsi paratyphosa" in a boy, aged 6 years; also a doubtful case), and Fried ("spondylitis paratyphosa"; also doubtful). Cases of meningitis or meningism were reported by Boycott (in a child of 20 months), Gohn (two cases), Arzt and Boese (*vide* morbid anatomy), Incan (in a boy of 4 years), Sironi ($2\frac{1}{2}$ years old boy), Boonacker and Gorter (in a baby 8 months old).

Other complications in children have been reported by Rings, Stolkind (enlarged cervical glands); icterus (Vaglio), nephritis (Langer and Thomann), and purpura hæmorrhagica (Job, etc.).

DIAGNOSIS.

The diagnosis of paratyphoid fever, as in other infectious diseases, must be based first on clinical symptoms. Clinically, it is possible to diagnose paratyphoid with the same probability as typhoid fever, influenza, malaria, etc. The possibility of paratyphoid must be borne in mind in the following conditions: (1) In so-called "food poisoning," which in the great majority of cases is caused by *B. paratyphosus* or *B. enteritidis*, Gaertner, or *B. suipestijer*; (2) in acute enteritis, or gastro-intestinal catarrh, or cholera nostras, or cholera, or dysentery; (3) in infectious diseases with symptoms resembling typhoid fever; (4) in cases with symptoms of respiratory influenza (coryza, sore throat, laryngitis, etc.).

In diagnosing paratyphoid we must also take into consideration cases in which there are clinical symptoms of septicæmia, malaria (Carducci, Stolkind, etc.), incipient tuberculosis, etc. The diagnosis of paratyphoid is only certain when we have symptoms of one of the above-mentioned clinical forms and when it is proved bacteriologically. In some of our cases of paratyphoid the determination of the opsonic index was of diagnostic value, as had been shown by Much and Schottmüller, Zlatogorov, etc.

Respiratory paratyphoid sometimes resembles a mixed infection of typhoid and influenza (Stolkind). The possibility of paratyphoid infection must also be borne in mind in cases of cystitis, pyelitis, cholecystitis, etc.

Prognosis.—The prognosis is good. The mortality is from 0 to 3 per cent., seldom more; it mostly depends upon complications.

Prophylaxis.—For the prophylaxis of paratyphoid fever (as well as of typhoid) it is necessary either to prevent the healthy person from contracting the infection or to make all the carriers innocuous. But at present we do not possess either a specific immune serum or a specific to destroy *B. paratyphosus* in the carriers. On the immunisation of animals the articles by Basseches, Bidault, Franchetti, and Jamanouchi should be consulted. In his monograph on "The Ætiology, Prophylaxis, and Modern Treatment of Typhoid and Paratyphoid Fever," Stolkind has collected almost all the important remedies proposed for the destruction of the bacilli in carriers (diet, lactobacillin, radiography, antiparatyphoid inoculation, disinfectants, etc.); not one of these remedies proved to be of much use. In severe epidemics antiparatyphoid noculation is giving good results (*vide* Berry, Mechnikov and Bezredka, Castellani, Kabeshima, Broughton-Alcock, Leishman, Sclavo, Vincent, Wright, etc.).

Treatment.—In the treatment of a case of paratyphoid the nursing, general hygiene, diet, and in severe cases drugs are of great importance. Generally we give liquid food. In mild cases of the typhoid and respiratory forms we allow the older children biscuits, cooked minced meat, etc. Alcohol (wine, brandy, etc.) should not be given in any case. If stimulants are needed, we use tea, coffee, caffeine, digitalis, camphorated oil, etc. In many of our cases of profuse diarrhœa, collapse, etc., repeated subcutaneous injections of normal salt solution (½–1½ litres) were of value. For abdominal distension proper diet is required. Turpentine proved absolutely useless in all cases.

For toxic meteorism as well as for bacteriotoxic paralysis of the vessels (with frequent filiform and irregular pulse, dyspnœa, general weakness, perspiration, pale or cyanotic skin, and sometimes collapse with fall of the temperature), subcutaneous injections of adrenalin with normal salt solution (six to ten times in twenty-four hours), caffeine and camphorated oil were sometimes of use.

Fever should be treated by hydrotherapy (baths not below 85°), sometimes pyramidon, antipyrin, etc., with caffeine. Urotropin, salol, etc., have no value in the prevention or cure of bacilluria. The same may be said of intestinal antiseptics (calomel, salol, benzonaphthol, etc.). Diarrhœa (if more than five stools in twenty-four hours, etc.), should be treated by proper diet, tannalbin, tannigen, bismuth, animal charcoal, and in severe cases opium should be given. For intestinal hæmorrhage injection of emetin, etc., is of use. Vaccines may be employed in severe cases.

REFERENCES.

(1) ACHARD and BENSAUDE.—'Bull. et Mém. Soc. Méd. Hôp. de Paris,' 1896, xiii, p. 820.

(2) ALLEN.—'Am. Journ. Med. Sci.,' 1903, cxxv, p. 96.

(3) AOKI.—'Centralbl. f. Bakt., Orig.,' 1910, lv, p. 208.

(4) APPIANI.—'Gazz. d. Osp.,' 1908, xxxix, p. 622.

(5) ARZT and BOESE.—'Wien. klin. Wochenschr.,' 1908, xxi, p. 217.

(6) BAER.—'Hyg. Rundschau.,' 1908, xviii, p. 505.

(7) BAGINSKY.—'Arch. f. Kinderheilk.,' 1909, xlix, p. 193; 1911, lvi, p. 241.

(8) BAINBRIDGE.—'Lancet,' 1912, i, pp. 705 and 849; 'Journ. of Path. and Bact.,' 1909, xiii, pp. 340 and 443.

(9) *Idem* and DUDFIELD.—'Journ. of Hyg.,' 1911, xi, p. 24.

(10) *Idem* and O'BRIEN.—*Ibid.*, 1911, xi, p. 68.

(11) BASSECHES.—'Compt. rend. Soc. de Biol.,' Paris, 1914, lxxvi, p. 469.

(12) BAUR.—'Correspondenzbl. f. schweizer Ärzte,' 1913, xliii, p. 1259.

(13) BECKERS.—'Hyg. Rundschau,' 1908, xviii, p. 313.

(14) Beljaev.—'Dissert. Moscow,' 1904, quoted by Stolkind, 'Arch. f. Kinderheilk.,' 1909, xlix, p. 34.

(15) Berger.—'Mitteil. a. Hamburg. Staatskrankenanst.,' 1906, vi, H. 2.

(16) Bernstein and Fish.—'Journ. Am. Med. Ass.,' 1916, lxvi, p. 167.

(17) Berry.—'Med. Record,' 1917, xci, p. 135.

(18) Besredka.—'Semaine Méd.,' 1912, xxxii, p. 524; 'Ann. Inst. Pasteur,' 1913, xxvii, p. 607.

(19) Bidault.—'Compt. rend. Soc. de Biol.,' Paris, 1914, lxxvi, p. 422.

(20) Bitter.—'Zeitschr. f. Hyg.,' 1911, lxix, p. 483.

(21) Blühdorn.—'Monatschr. f. Kinderheilk.,' 1913, Orig., xii, p. 80.

(22) Bonhoff.—'Virchow's Archiv,' 1914, ccxvi, p. 321.

(23) Boonacker and Gorter.—'Arch. de méd. des enf.,' 1911, xiv, p. 366.

(24) Boycott.—'Journ. of Hyg.,' 1906, vi, p. 33.

(25) Breunig.—'Münch med. Woch.,' 1914, lxi, p. 1050.

(26) Brinkmann.—'Zeitschr. f. Med.-Beamte,' 1913, p. 760, abstr. 'Hyg. Rundschau,' 1914, xxiv, p. 938.

(27) Broughton-Alcock.—'Lancet,' 1914, ii, p. 743.

(28) Buchholz.—'Med. Klinik,' 1907, iii, p. 142.

(29) Cannata.—'Annali clinica med.,' 1911, fasc. 3, quot. by 'Arch. de Méd. des Enfants,' 1912, xv, p. 771.

(30) Carducci.—'Boll. Soc. Lancisiana d. Osp. Roma.,' 1909, xxiv, fasc. 1 (estratto).

(31) Castellani.—'Zeitschr. f. Hyg.,' 1902, xl, p. 1; 'Brit. Med. Journ.,' 1915, i, p. 758.

(32) Cautley.—'British Journal of Children's Diseases,' 1905, ii, p. 241.

(33) Clemens and Galvey.—'Journ. Roy. Army Med. Corps,' 1913, xx, p. 198.

(34) Conradi.—'Deutsche med. Woch.,' 1904, xxx, p. 1165; 'Münch. med. Woch.,' 1909, lvi, p. 909; 'Centralbl. f. Bakter.,' 1906, Ref., xxxviii, p. 55 (Beiheft.); 'Klin. Jahrbuch.,' 1909, xxi, abstr. 'Centralbl. f. Bakt.,' 1910, Ref., xlvi, p. 235.

(35) Count and Kirby.—'Cook Hosp. Rep.,' 1906, p. 167, quot. by Stolkind, 'Clinica med. Ital.,' 1912.

(36) Curschmann.—'Zeitschr. f. Hyg.,' 1906, lv, p. 295.

(37) Cushing.—'Johns Hopkins Hosp. Bull.,' 1900, xi, p. 156.

(38) Doeleman.—'Nederl. Tijdsch. v. Geneesk.,' 1915, abstr. 'Lancet,' 1916, i, p. 147.

(39) Drought and Kennedy.—'Brit. Med. Journ.,' 1916, i, p. 649.

(40) Eckert.—'Berl. Klin. Woch.,' 1910, xlvii, p. 1102.

(41) Firth.—'Journ. Roy. Army Med. Corps,' 1912, xix, p. 157.

(42) Fischer.—'Arbeit. a. k. Gesundheitsamte,' 1912, xli, p. 324; 'Zeitschr. f. Hyg.,' 1902, xxxix, p. 447; 'Klin. Jahrbuch,' 1906, xv, p. 61.

(43) Fornet.—'Arbeit. a. k. Gesundheitsamte,' 1912, xli, pp. 448 and 592.

(44) Fortineau and Riberau.—'Compt. rend. Soc. de Biol.,' Paris, 1910, lxix, p. 153.

(45) Fraenkel and Much.—'Zeitschr. f. Hyg.,' 1911, lxix, p. 342.

(46) Franchetti.—'Lo Sperimentale,' 1908, lxxii, p. 550.

(47) Frank.—'Nederl. Tijdschr. v. Geneesk.,' 1913, i, p. 89, abstr. 'Jahresbericht. ü. die Leist. und Fortschr. d. ges. Med.,' 1913, ii, p. 12.

(48) Fried.—'Deutsche. med. Woch.,' 1912, xxxviii, p. 94.

(49) Gaetgens.—'Arbeit. a. k. Gesundheitsamte,' 1907, xxv, p. 203; 1909, xxx, p. 610.

(50) *Idem* and Kamm.—'Münch. med. Woch.,' 1910, lvii, p. 1389

(51) Gaffky.—'Centralbl. f. Bakter.,' 1906, Ref., xxxviii, p. 84 (Beiheft); 'Klin. Jahrbuch,' 1909, xx, p. 55.

(52) Ghon.—'XIV Internat. Kongr. f. Hyg. und Demorg.,' Berlin, 1907, iv, p. 21.

(53) Gildemeister and Baertlein.—'Deutsche. med. Woch.,' 1913, xxxix, p. 982.

(54) Graig and Waite.—'Dublin Journ. Med. Sci.,' 1902, cxiv, p. 221.

(55) Grattan and Wood.—'Journ. Roy. Army Med. Corps,' 1911, xvii, p. 143.

(56) Grenet and Fortineau.—'Bull. et Mém. Soc. Méd. Hôp. de Paris,' 1915, xxxix, p. 1298.

(57) Grünbaum.—'Brit. Med. Journ.,' 1904, i, p. 817.

(58) Gwyn.—'Johns Hopkins Hosp. Bull.,' 1898, ix, p. 54.

(59) Harvey.—'Journ. Roy. Army Med. Corps,' 1915, xxv, pp. 94, 193 and 525.

(60) Henry.—'Arch. gén. de méd.,' 1907, cxcviii, p. 443.

(61) Hetsch.—'Klin. Jahrbuch,' 1907, xvi, p. 267.

(62) Hilgermann.—*Ibid.*, 1909, xx, p. 103.

(63) Hübener.—'Fleischvergiftungen und Paratyphusinfectionen,' Jena, 1912.

(64) Incan.—'La Prensa medica,' 1910, p. 52, abstr. British Journal of Children's Diseases, 1910, vii, p. 513.

(65) Inoue.—'Zikasasshi,' 1911, abstr. 'Zeitschr. f. Kinderheilk.,' 1913, Ref., iii, p. 74.

(66) Jaccoud.—Quot. by Stolkind, 'Practichesky Vrach,' 1911.

(67) Jacob.—'Münch. med. Woch.,' 1912, lix, p. 2611.

(68) Jacobsohn.—'Berlin. klin. Woch.,' 1907, xliv, p. 339.

(69) Job.—'Bull. et Mém. Soc. Méd. Hôp. de Paris,' 1915, xxxix, p. 989.

(70) Kabeshima.—'Centralbl. f. Bakter.,' 1914, lxxiv, Orig., p. 294.

(71) Kapsenberg.—'Weeklebad.,' 1913, abstr. 'Jahresber. ü. die Leist. und Fortschr. in ges. Med.,' 1913, ii, p. 12.

(72) Kayser.—'Deutsche med. Woch.,' 1903, xxix, p. 311; *ibid.*, 1904, xxx, p. 1803; 'Centralbl. f. Bakter.,' 1904, xxxv, Orig., p. 154; *ibid.*, 1906, xl, Orig., p. 285.

(73) Konrich.—'Klin. Jahrbuch,' 1908, xix, p. 247.

(74) Krause.—'XIV Internat. Kongr. f. Hyg. und Demogr.,' Berlin, 1907, iv, p. 422.

(75) Kurt.—'Deutsche med. Woch.,' 1901, xxvii, pp. 501 and 519.

(76) Küster.—'Hyg. Rundschau,' 1908, xviii, p. 385; *ibid.*, 1911, xxi, p. 121; 'Centralbl. f. Bakt.,' 1909, xliv, Ref., p. 146 (Beiheft).

(77) Kutscher.—'Zeitschr. f. Hyg.,' 1906, lv, p. 331.

(78) Langer and Thomann.—'Deutsche med. Woch.,' 1914, xl, p. 493.

(79) Lashkevich.—Quot. by Stolkind, 'Centralbl. f. inn. Krankh.,' 1903, xxiv, p. 793.

(80) Laveran.—Quot. by Stolkind, *ibid.*

(81) Ledingham and Arkwright.—'The Carrier Problem in Infectious Diseases,' London, 1912.

(82) Leishman.—'Journ. Roy. Army Med. Corps,' 1909, xii, p. 163; and 1914, xxii, p. 365.

(83) Lentz.—"Centralbl. f. Bakt.,' 1906, xxxviii, Ref., p. 63 (Beiheft); 'Med. Klinik,' 1907, iii, p. 253; '14th Internat. Kongr. f. Hyg. und Demogr.,' Berlin, 1907, ii, p. 73.

(84) Levy and Fornet.—'Centralbl. f. Bakt.,' 1906, xli, Orig., p. 161.

(85) Levy and Gaetgens.—'Arbeit. a. k. Gesundheitsamte,' 1907, xxv, p. 250.

(86) Mancini.—'Wien. med. Woch.,' 1913, lxiii, p. 751.

(87) Marum.—'Arch. f. Ohrenkrankh.,' 1909, lxxviii, p. 45.

(88) Mayer.—'Münch. med. Woch.,' 1908, lv, p. 2218; 'Centralbl. f. Bakt.,' 1910, liii, Orig., p. 234.

(89) Mayerhofer.—'Med. Klinik,' 1915, xi, p. 1398.

(90) Mechnikov and Besredka.—'Ann. Inst. Pasteur,' 1911, xxv, pp. 193 and 865; *ibid.*, 1913, xxvii, p. 597; 'Compt. rend. Acad. de Sci.,' Paris, 1912, clv, p. 112.

(91) Meslay and Coville.—'Gaz. des Hôp.,' 1913, lxxxvi, p. 821.

(92) Miller.—'Lancet,' 1917, i, pp. 747, 827 and 901.

(93) Mori.—'Riv. clin. pediatr.,' 1907, abstr. 'Centralbl. f. Bakt.,' 1909, Ref., xlii, p. 148.

(94) Nauwerk and Flinzer.—'Münch. med. Woch.,' 1908, lv, p. 1217.

(95) Nishino.—'Zeitschr. f. Hyg.,' 1911, lxix, p. 92.

(96) Paladino-Blandini.—'Ann. d'Igiene Sperimentale,' 1905, fasc. iii, quot. by Stolkind, 'Die Klinik d. Paratyphus.'

(97) Pappenheimer.—'Proc. New York Pathol. Soc.,' 1907, vii, quoted by Siciliano, *loc. cit.*

(98) Poggenpol.—'Russky Vrach,' 1905, No. 41.

(99) Prigge.—'Arbeit. a. k. Gesundheitsamte,' 1912, xli, pp. 179 and 276.

(100) Quadflieg.—'Zeitschr. f. Hyg.,' 1912, lxxii, p. 385.

(101) Reuss and Schiller.—'Wien. med. Woch.,' 1915, lxv; 'Militärärzt,' xlix, p. 433.

(102) Ribadeau-Dumas and Harvier.—'Compt. rend. Soc. de Biol.,' Paris, 1910, lxix, p. 181.

(103) Rimpau.—'Deutsche med. Woch.,' 1908, xxxiv, p. 1045; *ibid.*, 1912, xxxviii, p. 2104; 'Arbeit. a. k. Gesundheitsamte,' 1911, xxxviii. p. 384; *ibid.*, 1912, xli, p. 514.

(104) Rings.—'Med. Klinik,' 1907, iii, p. 1007.

(105) Rommeler.—'Deutsche med. Woch.,' 1909, xxxv, p. 886.

(106) Rondoni.—'Lo Sperimentale,' 1908, lxii, p. 25; quot. by Stolkind, 'Die Klinik des Paratyphus, Würzburg. Abhandlungen,' 1912.

(107) Sachs-Mücke.—'Deutsche militärärzt. Zeitschr.,' 1907, p. 17.

(108) Sacquépée and Chevrel.—'Compt. rend. Soc. de Biol.,' Paris, 1905, lix, pp. 598 and 601.

(109) Savage.—'Journ. Path. and Bact.,' 1905, x, p. 341.

(110) Schmidt.—'Deutsche med. Woch.,' 1915, xli, p. 911.

(111) Schottmüller.—'Deutsche med. Woch.,' 1900, xxvi, p. 511; 'Münch. med. Woch.,' 1904, li, pp. 294 and 349; 'Zeitschr. f. Hyg.,' 1901, xxxvi, p. 368; Handbuch d. inn. Med. her. Mohr und Staehelin, 1911.

(112) *Idem* and Much.—'Münch. med. Woch.,' 1908, lv, p. 433.

(113) Sclavo.—Quot. by Moreschi, 'Gazz. Ospedali e Cliniche,' 1913, xxxiv, p. 1591.

(114) Siciliano.—'Le infezioni paratifose,' 1908, Firenze.

(115) Sironi.—'Gazz. internaz. di med., 1915, abstr., 'Riforma medica,' 1915, xxxi, p. 1391.

(116) Stolkind.—'Vrachebnaja gazeta,' 1901; 'Centralbl. f. inn. Krank.,' 1903, xxiv, p. 793; 'Med. obozrenie,' 1907; 'Arch. f. Kinderheilk.,' 1909, xlix, p. 34; 'Practichesky Vrach,' 1911, x, pp. 679, 700, and 716; 'Clinica medica Italiana,' 1912, li, pp. 165–196; 'Proc. Roy. Soc. Med.,' 1915, ix (Med. Sect.), p. 34.

(117) *Idem.*—'Die Klinik des Paratyphus, Würzburger Abhandlungen,' 1912, xii, Heft 7.

(118) *Idem.*—"Ætiology, Prophylaxis, and Modern Treatment of Typhoid Paratyphoid Fever" (monograph with copious literature), 'Sovremennaja Klinika et Terapia,' 1916, Petrograd.

(119) Tillgren and Troell.—'Wien. klin. Woch.,' 1913, xxvi, p. 886.

(120) Trautmann.—'Zeitschr. f. Hyg.,' 1903, xlv, p. 139.

(121) Tromsdorf, Raichman, and Porter.—'Journ. of Hygiene,' 1911, xi, p. 89; 'Zeitschr. f. Immunitätsforsch,' 1911, ix, Orig., p. 61.

(122) Uhlenhuth and Hübener.—'Handbuch d. pathog. Mikroorganismen,' her. Kolle und Wassermann, 2 Aufl., p. 1005.

(123) Ustvedt.—'Zeitschr. f. Hyg.,' 1914, lxxvii, p. 22.

(124) Vagedes.—'Klin. Jahrbuch,' 1905, xiv, p. 517.

(125) Vaglio.—'La Pediatria,' 1915, xxiii, p. 178.

(126) Vincent.—'Bull. Acad. de méd.,' Paris, 1915, lxxiv, p. 194.

(127) Walker.—'Dissert. Zürich.,' quot. by Hübener.

(128) Walther.—'Bull. Acad. de méd.,' Paris, 1913, lxix, p. 283.

(129) Watt.—'Lancet,' 1913, ii, p. 130.

(130) Wilucki.—'Archiv f. Schiff. u. Trop. Hyg.,' 1915, xix, p. 321.

(131) Wollenweber, Dorsch, and Matthes.—'Klin. Jahrbuch,' 1912, xxvi, p. 399.

(132) Wright.—'A Short Treatise of Antityphoid Inoculation,' 1904, London.

(133) Yamada and Doi.—'Mitteil. med. Gesellsch.,' Tokio, 1912, xxvi, abstr., 'Centralbl. f. Bakt.,' 1913, lviii, Ref., p. 690.

(134) Yamanouchi.—'Compt. rend. Soc. de Biol.,' Paris, 1909, lxvi, p. 1050.

TUBERCULOSIS AS SEEN IN PUBLIC ELEMENTARY SCHOOLS.

By John Priestley, M.R.C.S.,
Senior School Medical Inspector, and

Barbara Richardson, M.B.,
Assistant School Medical Inspector, Staffordshire County Council.

Even in a large area like that of the Staffordshire elementary administrative area, with over 80,000 children on the rolls, the numbers of tuberculous cases discovered at the routine inspections in the course of a year are not large. It seems a fitting opportunity to take stock of the total number of cases since the beginning of medical inspection in 1908.

Attention will be restricted in this paper to the "leavers." We conducted routine inspections of "leavers" from 1908 to 1915, since which year we have been unable to undertake any routine inspections whatever. In the early days "leavers" were differently defined in our so-called rural and urban areas. In the former areas a "leaver" was a child 12–13, in the latter a child of 13–14. After several years of study of the two denominations we came to the conclusion that there was too little difference between them to justify separate categories. Our rural areas are indeed genuinely rural, but our so-called urban areas are at most semi-rural. We have few or no real slum areas: our "urban" working-class townlets or hamlets are at worst but little fragments of a slum city, open on all sides to the free country air, and therefore less affected by the grosser evils of insanitation. In 1915 "leavers" everywhere, or more strictly speaking, children up for their final routine inspection, began to be defined as 12–13's.

Thus the children we shall deal with are those of 12–13 and those of 13–14. By 12–13 is meant a child who was 12 but not yet 13 on January the 1st of the year of inspection. Boys and girls were approximately equal in number at each inspection.

Since a child turned 12 but not yet 13 on January the 1st might be inspected on any day from January to December, it is clear that the average age of those we call 12–13's was not 12½ but 13. On the other hand, the average age of the 13–14's was 13½, since children in practically every case leave school by the time they are 14.

The cases we have enumerated as tuberculous may be taken to be almost all indisputably so. We have kept distinct and not included in the following figures the numerous cases of suspected tuberculosis. Every worker in the field of clinical tuberculosis during the last twenty years has felt the tendency to sweep all manner of cases of ill-defined delicacy into the net of tuberculosis. There is sure to be a reaction; perhaps it has already set in. At any rate we have from the first kept separate the suspected cases from the cases whose well-marked and classical symptoms would have contented the physicians of twenty years ago, and it is these cases which alone are presented. For this reason, it may be mentioned, a group of cases of cervical glandular enlargement, of somewhat indefinite clinical import, belonging to the year 1914 (children 12–13), which may have been, as the inspector thought at the time, essentially tuberculous, but which also may not, have been omitted.

The inspecting staff remained practically unchanged from 1908 to 1913. It consisted of five members standardised by frequent consultations and mutual understandings of each other's ideals. But between 1913 and 1915 two of the original staff resigned, and the whole staff was increased from five to eight. It was, therefore, not so easy to secure complete uniformity in collecting the data in the later years.

The total numbers of children inspected during the years 1908–15, and the numbers of tuberculous cases of various categories detected among them, are set forth in the following table:

TUBERCULOSIS.

Children 12–13 *and* 13–14.

BOYS.

Years 1908-15.					
		Tuberculosis.			
Age.	Number inspected.	Lungs.	Glands.*	Bones and joints.	Other.
12–13 . .	**14,191**	26	29	22	4
13–14 . .	**6935**	10	21	3	2
Totals . .	**21,126**	36 = 0·170 %	50 = 0·246 %	25 = 0·118 %	6 = 0·028 %

GIRLS.

12–13 . .	**14,724**	32	52	14	5
13–14 . .	**6891**	19	32	10	2
Totals . .	**21,615**	51 = 0·236 %	84 = 0·407 %	24 = 0·111 %	7 = 0·032 %

Grand total inspected, 42,741.

* In consequence of the omission of a group of children under the heading of Glandular Tuberculosis from the 12–13's of 1914, the basic number for percenting is 20,277 in the case of boys and 20,635 in the case of girls.

It should be noted that we are dealing with *diseases* not *children*. Occasionally one child had two manifestations of tuberculosis; but no child in the 13–14 group had ever figured in the 12–13 group, and therefore no disease is counted twice over. It must be admitted that altogether we have not a number of tuberculosis cases sufficient for bold generalisations.

A glance at the tables suffices to show that, in general, girls suffer more from tuberculosis than boys. The numbers of boys and girls inspected are approximately the same. There are 283 cases of tuberculosis in all, of which 117 are boys and 166 are girls. The ratio of boys to girls, therefore, is 1 : 1·41, nearly 50 per cent. more girls proportionately than boys.

It is known, from the Registrar-General's Reports,* that the tuberculosis mortality of males at age 10–15 as compared with females is about as 52 to 82, which is sufficiently near our attack incidence in Staffordshire to give us confidence in the general accuracy of our figures.

If we take the cases of pulmonary phthisis alone, boys of 12–14 in Staffordshire showed 0·17 per cent. of cases and girls 0·236 per cent. The proportion of deaths from pulmonary phthisis of males at age 10–15 as compared with females, according to the Registrar-General, is about as 23 to 50.†

COMPARISON OF THE TUBERCULOUS WITH THE AVERAGE CHILD.

We examine all routine children according to a uniform plan and note the facts. At the end we can say that out of so many children examined a percentage had this or that ailment. When the numbers of children are sufficiently large the percentages tend to be remarkably constant in different homogeneous groups of children. The constitution of the child, plus the average risks of living in a given environment, determine a constant result. It is always of interest to see whether a group of children, having something peculiar in their constitution, or somewhat differently circumstanced, reacts in the same way as the generality or not.

The following tables show a comparison between the behaviour of average children and of children who are known with reasonable certainty to be infected with tuberculosis. In all other respects, except the suffering from tuberculosis, the average circumstances of the two groups are similar. The children are of the same ages. The two ages, 12–13 and 13–14, are thrown together, because we have never detected any difference of reaction between them. But attention must be called to an important difference between the contrasted groups in the matter of sex: while boys and girls are in substantially equal proportions in the entire group, their proportions in the tuberculous group are as 2 to 3. This will have to be allowed for.

---

* *Loc. cit.*, p. xciii.

† Registrar-General's Report, pub. 1907, Supplement, p. xci.

Naturally in the matter of heights and weights the ages 12–13 and 13–14 are treated separately, and also the two sexes; but for many other purposes this is not strictly necessary, and, by combining, we get the advantage of greater numbers of the tuberculous and, therefore, steadier percentages.

We shall take the particular manifestations of tuberculosis separately so far as the numbers of cases make it worth while—viz. the pulmonary, the glandular, and the osseous (bones and joints).

Height and weight.—As standards we shall take the mean height and weight of our Staffordshire children as given in the Annual Report for 1912. The standards, while agreeing generally with those elsewhere used, show a few deviations which may be due to local differences of physique or to the fact that the conditions as to age, clothing, etc., were not precisely the same. In either case it is better to compare our own tuberculous with our own average children.

In the later years of medical inspection the weighing and, measuring have been much less systematically carried out, mainly owing to the depletion of staffs. Hence, in some tuberculous groups the number of children of whom we have weight and measure is disappointingly small. The numbers are given in all cases at the head of each column.

Children of average age 13.

BOYS.

	Staffs averages, 1909–11.	Tuberculosis.		
		Pulmonary.	Glandular.	Bones and joints.
Nos. dealt with .	**3412**	**12**	**12**	**12**
Height . . .	55·90 in.	54·60 in.	55.62 in.	55·39 in.
Weight . . .	75·32 lb.	66·54 lb.	73·25 lb.	73·86 lb.
W : H ratio . .	1·347	1·218	1·317	1·333

GIRLS.

Nos. dealt with .	**3475**	**9**	**21**	**6**
Height . . .	56·29 in.	56·83 in.	56·40 in.	53·79 in.
Weight . . .	77·70 lb.	69·90 lb.	77·71 lb.	69·30 lb.
W : H ratio . .	1·380	1·229	1·378	1·288

Children of average age 13½.

BOYS.

	Staffs averages, 1909-11.	Tuberculosis.		
		Pulmonary.	Glandular.	Bones and joints.
Nos. dealt with	**2754**	**8**	**19**	**3**
Height	55·90 in.	57·50 in.	55·53 in.	57·00 in.
Weight	77·55 lb.	80·87 lb.	77·88 lb.	78·08 lb.
W : H ratio	1·387	1·406	1·402	1·370

GIRLS.

Nos. dealt with	**2563**	**6**	**25**	**5**
Height	56·69 in.	55·70 in.	56·97 in.	54·65 in.
Weight	81·15 lb.	73·25 lb.	81·70 lb.	78·40 lb.
W : H ratio	1·431	1·315	1·434	1·434

The above tables show that there is no constant differentiation of the tuberculous children from the average in height; sometimes the tuberculous groups have a higher mean height, sometimes a lower. And the same is true of the weight to height ratio: in the pulmonary group the ratio is certainly, in most cases, distinctly below the average, but not always (see boys 13½), while in the non-pulmonary groups the ratio is several times either above, or approximately the same as, that of the average. There is nothing to show that tuberculosis affects with any marked preference a type of child with low W : H ratio.

Incidence of the common infectious ailments.—We do not get a complete series of histories of previous illnesses with our children. Sometimes mothers cannot be got at, sometimes they have forgotten; but no selection is made, and, presumably, in the long run the omissions fall impartially on all groups. It seems probable that if to have had measles, whooping-cough, etc., in early life greatly predisposes to tuberculosis, this would tend to show itself in the case-histories. The following table enables us to see how far this is the case.

There is reason to believe that boys and girls are approximately equally liable to the common infectious ailments.

Thus the figures at our disposal give no reason to believe that previous attacks of the common infectious illnesses predispose to or favour the development of tuberculosis.

TABLE SHOWING INCIDENCE OF COMMON INFECTIOUS AILMENTS.

Children 12–14 (*Boys and Girls approximately equal*).

Years 1908–15.

	Entire group.	Tuberculous group.
Total inspected	**42,741**	**283**
Histories of .	Per cent.	Per cent.
Measles	49·05	43·81
Whooping-cough	17·91	19·08
Chicken-pox	11·01	8·48
Scarlet-fever	9·55	6·00
Mumps	13·45	9·18
Diphtheria	3·01	2·12

Environment and tuberculosis.—There are certain facts noted of every routine child which go to illustrate the home conditions. How many dwelling-rooms are there in the home? Does the mother go out to work? Is the child's clothing ragged and dirty? Is the child verminous and unclean personally?

As to size of house and as to whether the mother is an outworker we cannot ascertain the fact in all cases, since we often cannot get at the parents, but, presumably, omissions to ascertain are scattered impartially over all groups in the long run.

It will be noticed that none of the above criteria is absolutely discriminative of the badly circumstanced child. The perfectly healthy, only child of a careful, newly-married couple may live in a three-roomed house. In half-timer districts it is often the capable, strong, managing mother with healthy children who goes out to work. Ragged clothing is sometimes, one might almost say, a personal fad of parents well enough off and otherwise attentive to their children; and nits in the hair are often seen in the case of the girls of quite respectable and well-intentioned mothers.

TABLE ILLUSTRATING THE EFFECTS OF ENVIRONMENT.

Children 12–14 (*Boys and Girls approximately equal*).

Years 1908–15.

	Entire group.	Tuberculous group.
Total inspected	**42,741**	**283**
	Per cent.	Per cent.
Mother an outworker	4·26	4·24
Homes of three rooms and under	6·69	8·12
Faulty clothing	7·53	6·71
Personally verminous	29·99	31·80

As the tuberculous group consisted of three-fifths girls and two-fifths boys, whereas the entire group consisted of equal proportions, and as girls always show a much larger proportion of personally verminous cases than boys owing to their long hair, the percentage 31·8 for the tuberculous group should be diminished somewhat to make it strictly comparable with the percentage of the entire group, 29·9. It is, however, evident on the face of it that the tuberculous group has no marked preponderance of verminous cases.

The basic numbers of the tuberculous group are so small, and the percentages therefore so precarious, that it will be better to take the above table in its entirety as suggesting that, at least in the predominately country conditions of Staffordshire, the occurrence of tuberculosis is not so much conditioned by particular environmental factors as is the case in large towns. Take the item of homes of three rooms and under (by which is meant not three bedrooms, but three rooms altogether). In towns overcrowding in one or two sleeping rooms, there seems to be no question, is closely associated with increased incidence of phthisis. In the above table, however, living in very small houses seems to have had little if any effect, which may simply mean that dwelling in three-roomed houses does not connote dangerous overcrowding to anything like the same extent in country areas as in populous towns.

Be that as it may, in general it would appear that the home conditions in the tuberculous group were not materially worse than the average.

DIFFERENT INCIDENCE OF VARIOUS AILMENTS AMONG THE TUBERCULOUS AS COMPARED WITH THE AVERAGE.

If a group of tuberculous children have an incidence rate for a certain ailment which is unmistakably higher than that of the totality of children examined, we are justified in concluding that there is some connection—either tuberculosis causes or promotes the ailment, or the ailment causes or promotes tuberculosis.

Though we have waited eight years for an accumulation of cases, the basic numbers of the tuberculous are still small for the purposes of such an investigation. There are only 283 cases. The basic numbers would be smaller still were we to separate boys (117) and girls (166), as, to be scientifically accurate, we ought to do, since many diseases fall unequally on girls and boys. It would, therefore, be pedantic to print the percentages in the case of all ailments, and a selection will be made of those conditions which have been thought to have some connection with tuberculosis.

Nose and throat ailments.—Adenoid overgrowths of throat and nasopharynx are often suspected to favour tuberculosis. At school inspections we deal with two conditions bearing on adenoid overgrowth, enlarged tonsils, and mouth breathing. A discussion of this latter as an index of nasopharyngeal adenoids is contained in the Annual Report on 1914, p. 38 : sufficient to say, that the number of mouth breathers is an index and not an exhaustive enumeration.

Taking tonsils first. As we have never found any appreciable difference in the incidence of enlarged tonsils between boys and girls no correction of percentages is necessary. The 42,741 children of the entire group yielded 24·4 per cent. of enlarged tonsils, the 283 tuberculous children yielded 21·9 per cent. Considering the relatively small numbers of the tuberculous this must be regarded as a substantial agreement.

As regards mouth breathing a correction of the percentages is first necessary. At all ages girls have regularly a smaller number of mouth breathers than boys (see Annual Report on 1914, p. 105). The yield of cases among boys is, roughly, half as many again as among girls. Now the percentage of mouth breathers in the entire group is 9·01, and in the tuberculous group it is 8·83; but, as the latter group consisted of three parts girls (less affected) and two parts boys (more affected), whereas the entire group consisted of equal numbers of each, the mean percentage of the tuberculous group must be raised to make it strictly comparable with the mean percentage of the entire group. In fact, when the proper correction is made the percentages become practically equal.

There is, therefore, no evidence in our figures to support the belief that pharyngeal or nasopharyngeal adenoids favour tuberculosis in any marked degree.*

Small basic numbers call for great caution, but what may be claimed with perfect certainty for the figures thus quoted is that they prove beyond a doubt that mouth breathing and enlarged tonsils have no *dominating* influence or determining influence such as is sometimes ascribed to them in the production of tuberculosis. That they never act as a go-between cannot be asserted.

Thus Dr. Ruby Thomson, in a study of the mouth breathers of the three age periods, 5–6, 8–9, and 12–14, in the year 1911, estimated that, taking all mouth breathers together and making the correction necessitated by the different incidence of mouth breathing in boys and girls, the mouth breathers had proportionately half as many more cases of tuberculosis (all kinds) than the average of the entire group. But the total number of tuberculous cases in the whole of the 20,000 children she reviewed only amounted to 80. The mouth breathers in the same group numbered 2351. It is, therefore, not a very startling fact that the tuberculosis cases should in a particular year fall to the mouth breathing group in somewhat disproportionate numbers.

---

* In this connection reference should be made to the most interesting book of Dr. W. C. Rivers entitled 'Three Clinical Studies in Tuberculosis Predisposition' (London: Allen and Unwin, 1917). Dr. Rivers attacks the subject from the clinical side. His conclusions are in several particulars not supported by our observations.

It may be well to indicate what is meant by a dominating or determining influence. If you take school children at large and are dealing with several thousands of children you will find that the proportion of those who are deaf is anything from 4 per cent. to 6 per cent. If you pick out the children who have, say, enlarged tonsils but are not mouth breathers, you will find that the proportion of deaf cases among them is still from 4 per cent. to 6 per cent. But if you pick out all the children who are mouth breathers, you will find that the proportion of deaf cases in the mouth breathing group runs up to 15, 20, 30, and even 40 per cent. This we have tested several times. Thus mouth breathing has an absolutely dominating influence in causing deafness.

Enlarged cervical glands.—We used to enumerate very carefully all cervical glands which were palpable, but we ceased to do this systematically after 1913, and our percentages, therefore, only refer to the years 1908–1913. This reduces the grand totals inspected. As we have never found any sex difference in the incidence of cervical gland enlargement the percentages need no correction.

The entire group of 25,081 yielded 11·8 per cent., the 145 tuberculous children yielded 58·6 per cent. This obviously indicates a connection between tuberculosis and enlarged glands, but about half the tuberculous children had tuberculous glands of the neck. Omitting these neck gland cases we have a remnant of 71 other tuberculous cases, and the incidence of cervical gland enlargement in them was 16·9 per cent., well above the 11·8 per cent. of the entire group. The basic figures are far too small for sweeping conclusions, but it may be pointed out that if we confine attention to the pulmonary cases alone the percentage of glandular enlargements is higher still. There were 34 pulmonary cases, and 10 of these showed cervical glandular enlargement, that is to say, 29·4 per cent. This seems outside the limits of error of small numbers, and must, we think, be taken to indicate a definite connection between cervical glands and pulmonary tuberculous infection.

Sound dentures.—Caries of teeth has been made responsible for all diseases under the sun, and, among others, tuberculosis. We have never noticed any sex difference in the incidence of caries of teeth, so the percentages need no correction. For reasons which need not detain us, the examinees of one of our inspectors for one year are omitted; this reduces both the grand total inspected and the tuberculous group. The remaining grand total of over 40,000 children yielded 22·18 per cent. of children with sound dentures; the 269 tuberculous children had 26·39 per cent., or, in other words, the tuberculous as a group were even better off in respect of sound dentures than the average. The basic numbers of the tuberculous group are small, but certainly the percentages do not support the view that caries of teeth exerts any appreciable influence in promoting tuberculosis.

Nutrition.—Here there is a marked difference to the disadvantage of the tuberculous group, as is shown in the following table. We have never detected any difference between boys and girls in the incidence of sub-normal nutrition.

NUTRITION.

	Excellent. Per cent.	Normal. Per cent.	Bad. Per cent.
Entire group	3·62	78·33	18·03
Tuberculous	0·35	60·42	39·22

Anæmia.—Girls have more anæmic cases than boys at all ages. Taking the entire group of children 12–14 with whom we are dealing the boys yielded 9·25 per cent. and the girls 14·2 per cent., the average being 11·75 per cent. (the boys and girls in the entire group were about equal). Taking the tuberculous group the boys yielded 8·54 per cent. This is very nearly the same percentage as the boys in the entire group, but the basic numbers were small (117). The tuberculous girls (116), on the other hand, yielded 20·48 per cent.—a large excess. Making the correction due to the unequal number of boys and girls in the tuberculous group the mean or average of the group is 15·7 per cent., a considerable rise above the 11·75 per cent. average of the entire group.

The above are the main conditions associated in various theories with tuberculosis; but there are other conditions we may very naturally be curious about. For example the following:

Heart diseases.—It is known that girls are more liable to rheumatism than boys, and we have always found that they have organic heart lesions to a slightly greater extent. The disparity is somewhat greater in regard to functional disorders of heart.

But in both cases the difference is too slight to call for correction of the percentages. Organic heart disease in the entire group amounted to 2·8 per cent., in the tuberculous 2·12 per cent.; functional heart disorders in the entire group were 9·7 per cent., in the tuberculous they were 12·7 per cent. Considering the small basic numbers it probably means that there is no very marked interconnection.

Mental and nervous affections.—It is often remarked that tuberculous people are of a bright intellectual nature. It is believed also by many specialists that tuberculosis plays a part in weakening the germ plasm and giving rise to mental deficiency.* Both these statements receive confirmation from our percentages. Boys always yield more *dull and backward* children than girls, and, therefore, we must correct for this, since our tuberculous group has three girls for every two boys. The dull and backward in the entire group were on average of boys and girls 8·78 per cent., in the tuberculous group they were on average 2·76 per cent.

As to *mental deficiency*, there is also a constant excess of boys over girls. But as we have no mentally defective girl in our tuberculous group we will compare boys with boys. The 21,126 boys of the entire group yielded 0·56 per cent., the tuberculous boys 1·7 per cent. Thus, as a matter of fact, the tuberculous group had on this occasion a greatly disproportionate number of mental deficiency cases in it, but the basic figures and the number of cases in the tuberculous group are very small.

There was certainly no excess of other nervous ailments in the tuberculous group, there was no case at all of *infantile paralysis* or *chorea* as it happened, and *stammering, defective articulation* and *epilepsy* were in fairly equivalent percentages in the tuberculous and the entire groups.

Sense organs.—All *eye diseases* except perhaps squint tend to appear more frequently among girls than boys. This is especially true of defective sight. But in all the diseases except defective sight the difference of percentage is too slight to be taken into account for the purposes of our comparison. Making the necessary allowances for sex, this particular group of 283 tuberculous children showed an excess of percentage over the average in all cases except squint. The excess justified the belief, in spite of the small basic numbers, that the tuberculous have a greater tendency to eye diseases than the average, more especially to external eye diseases, including phlyctenular conjunctivitis and opacities. (See paper on

---

* Tredgold, 'Mental Deficiency.' London: Baillière, 1908, p. 20.

"External Eye Diseases of Elementary School Children," p. 201). The fact that there was no difference in the percentage of squint as between the tuberculous and the average is a point worth emphasising, since it has recently been maintained that consumptives are very liable to have squint, even to the extent of two or three times the average proportions.* Dealing with some 500 consumptives Dr. Rivers found the proportion of squints to be 1·2 per cent., whereas, taking some 900 persons gathered together and examined in a somewhat casual manner, he found the proportion of squinters to be only 0·4 per cent. All the cases were presumably adults.

Now the proportion 1·2 per cent. closely resembles what we have found with singular constancy to be the proportion of squinters in our children of school age 5–14. We have never detected any marked difference between boys and girls, but if anything girls have a slightly greater proportion. Taking boys and girls together to the number generally of about 20,000 children a year, our yearly percentages of squinters from 1908–1915 were as follows: 1·75, 1·26, 1·3, 1·3, 1·16, 1·2, 1·4, 1·4. Our experience is that a very small proportion of the squinters in the rank of life of our public elementary school children in ordinary circumstances ever get their squints thoroughly corrected, so Dr. Rivers's consumptive squinters were probably just above in average numbers. It is possible his control observation has misled him.

A tendency on the part of the tuberculous group to suffer from *ear diseases* is still more markedly shown, or may it be that ear disease opens another avenue for tuberculosis? We have no reason to think of any appreciable difference of incidence of ear disease in the two sexes, and, therefore, the percentages need no correction. The entire group of children yielded 5·2 per cent. of cases of defective hearing in one or both ears, the tuberculous group 8·8 per cent. The entire group had 1·24 per cent. of children with running ears, one or both, the tuberculous group 3·18 per cent. These differences are beyond the usual limits of variation in such groups as we are dealing with; they probably mean a significant degree of correlation or association between tuberculosis and ear diseases.

Deformities.—Finally, the case of deformities may be cited, not because it has any intrinsic value, but because it very neatly illustrates the kind of disturbance which may be expected in the percentages when there is a plain and obvious connection between tuberculosis and other conditions.

---

* W. C. Rivers, *loc. cit.*, p. 43.

There has never been noticed any constant difference of incidence of deformities as a whole in boys and girls.

It has been customary to classify deformities as (1) developmental, such as webbed fingers and other congenital deformities, etc., and in this group were included high palates and the cases of fulness of the thyroid which are rather common in children and by no means always, or even frequently, portend goitre. (2) Pathological deformities like knock-knees, ankylosed joints due to disease, etc., and among them were noted all cases of scars of abscesses—including, of course, tuberculous abscesses—which had burst naturally. (3) Traumatic deformities, or all sorts of visible deformities due to accident, such as mutilated fingers, etc., and this group included all marks of surgical operation, and, therefore, operation for tuberculous glands. The percentages are shown in the following table :

DEFORMITIES.

	Developmental. Per cent.	Pathological. Per cent.	Traumatic. Per cent.
Entire group .	11 32	5·5	1·5
Tuberculous group .	11·3	38·8	8·1

CONCLUSIONS.

The following conclusions may, perhaps, be drawn from a comparison of the tuberculous with the average child :

(1) The weight to height ratio gives little or no help in the diagnosis of tuberculosis in children.

(2) A previous attack of any of the common infectious illnesses of children does not, in general, seem to predispose to subsequent attacks of tuberculosis.

(3) There is no evidence that more cases of tuberculosis arise among our badly-environed children in Staffordshire than among our better environed, but this may well mean that our relatively badly-environed country children are, after all, not very badly off.

(4) Our figures give no support to the belief that enlarged tonsils and adenoids as indicated by mouth breathing *materially* favour the development of tuberculosis.

(5) There is no evidence that caries of teeth to any appreciable extent leads to tuberculosis or favours its development.

(6) There is evidence that cervical glands are enlarged in tuberculous children much more frequently than the average, not only in glandular tuberculosis, but also in pulmonary and other kinds.

(7) There is no evidence that tuberculosis favours, or is favoured by, heart affections.

(8) There is evidence that the tuberculous have fewer dull and backward among them than the average group, and, on the other hand, that they yield a larger proportion of mentally deficient cases.

(9) There is evidence that the tuberculous group yields an unduly large proportion of cases of defective sight and eye diseases, but the difference is not marked. A similar and more marked difference is noticed in ear diseases.

(10) As might have been expected, anæmia is very prevalent among the tuberculous, and nutrition is markedly depressed.

CLINICAL PICTURE OF PULMONARY TUBERCULOSIS AS SEEN IN CHILDREN ACTUALLY ATTENDING ELEMENTARY SCHOOLS.

Of 283 cases of tuberculosis of all kinds, in 87 the lungs were the seat of the disease. The cases of pulmonary tuberculosis which we meet with among school children are not the well-defined, typical, and advanced cases familiar to the clinician, for such would naturally be under treatment and debarred from attending school.

Generally speaking, it is the incipient and quiescent cases alone which come under the observation of the school medical inspector. It is among such cases as these that the difficulties in physical diagnosis are greatest, and detailed and prolonged observation is, in many cases, essential to complete certainty.

In the absence of specific tuberculin tests, and, in the main, without the help of bacteriogical examination of the sputum, we can yet, on clinical evidence alone, be reasonably sure of the presence of pulmonary tuberculosis in each of the 87 cases under consideration. Probably, with finer tests and more prolonged observation, some of the marginal cases of lung weakness might also have been included among the genuine cases of pulmonary tuberculosis.

What are the clinical manifestations constituting evidence of the presence of this disease?

In the *normal child* of this age (12–14) we expect to find—

(1) A well-formed and healthily-covered chest, not, as a rule, showing a tracery of veins.

(2) Good respiratory movement and free entrance of air, showing itself to the eye and hand in adequate and even expansion; and to the ear in the gentle, rustling sound of the air entering the vesicles during inspiration, heard neither too close to the ear nor from too great a distance, as we listen over the surface of the chest.

(3) Healthy, air-filled lung-tissue, detected by the clear, resonant note elicited on percussion, and by the absence of any variation

from, or accompaniments of, the normal, vesicular breath-sounds on auscultation.

We must not, however, overlook the fact that certain deviations from this type are quite consistent with normal health :

(1) A harsh type of breathing is quite common in healthy children of this age, and in certain sites—notably the right apex—bronchial breathing is frequently heard when complete examination reveals quite healthy conditions. Of greater importance is the feeble breathing of the imperfectly expanding lung, but this does not necessarily suggest tuberculosis.

(2) It has been shown in the summary of Dr. Moffett's cases in the Annual Report of the Staffordshire School Medical Officer on 1910, p. 77, that dulness may occur in patches over the surface of the chest even in children of sound health. It is only the association of such dulness with other symptoms that lends it significance for the diagnosis of tuberculosis.

(3) Many apparently quite healthy children of a thin type show a tracery of medium-sized blue veins over the chest.

Bearing in mind these features of the normal, the evidences of lung disorder which were noted in the pulmonary tuberculous cases under consideration include—

(1) Those evident to the eye. *Flattening and retraction* of portions of the chest surface; this occurred most frequently in the infraclavicular regions, sometimes affected the whole of one or both sides of the chest, and was occasionally associated with kyphosis and lordosis. In some clear cases of tuberculosis the *superficial veins* of the chest were dilated, but in many there was no dilatation. In one or two *fibrillary contraction* of the chest muscles was elicited. *Diminished expansion* of part or the whole of one or both lungs was almost constantly observed.

(2) Those detected on placing the hand on the chest. Here, again, *diminished movement*, local or general, headed the list, and increase in *vocal fremitus* occurred in many cases.

(3) Evidences found on percussion. Alterations of the normal resonance of various parts of the lung varying from slight impairment to absolute or wooden *dulness* were found in almost every case, indicating most probably (with the reservation given above) conditions of deficient air-entry, slight congestion, and, in some instances, actual consolidation. Only very rarely was the note tympanitic or in any way suggestive of cavity formation.

(4) Evidences disclosed by auscultation. These were (*a*) Deviations from the normal vesicular type of breathing which occurred

at various sites in the lungs. Under this heading we found the *diminished respiratory murmur* of feeble expansion or congestion; the *cog-wheel* or wavy type of breathing with prolongation of expiration; and the definitely *harsh* and bronchial or tubular, high-pitched breathing of consolidation. Rarely was there heard the amphoric type associated with cavity formation, and in no case were the sounds distant or altered in such a manner as to suggest the presence of fluid. (*b*) Adventitious sounds accompanying the breathing, such as the creaking *rhonchi* of dry pleurisy, the dry and moist *râles* of bronchitis, and the fine *crepitations* more closely associated with tuberculous processes, which were all occasionally noted. (*c*) Alterations of vocal resonance. Slightly *diminished resonance* as from imperfectly expanding lung was noted in a few cases, but the deviation from the normal usually took the form of *bronchophony*, and, in one or two instances, whispering *pectoriloquy*.

It must not be supposed that in every case all or even a great number of the above signs were present. In some there was little beyond poor expansion, slight dulness, cog-wheel breathing, and perhaps a few crepitations in a small patch, but there was always sufficient evidence of localised or fairly general chronic bronchitis or of broncho-pneumonia, and, very occasionally, of bronchiectasis and cavity formation.

Having discovered so much, the next point was to decide whether the condition was of a tuberculous nature or not, and here the subjective symptoms and previous history had perforce to be the mainstay of the diagnosis. Tuberculosis in this respect is very different from heart disease in school children. The latter disease is usually discovered quite unexpectedly. No suspicion has been previously aroused by untoward symptoms. But in pulmonary tuberculosis the possibility of its occurrence has already been presented to the inspector's mind by the history volunteered by mother or teacher. It is comparatively rare for suspicion to be first aroused by the examination of the chest.

Thus the final decision is largely determined by a consideration of the associated conditions and the previous history.

Associated conditions.—*Cough* was present in the majority of the cases, sometimes the short, hacking, dry, spasmodic cough at night suggesting the possible pressure of an enlarged bronchial gland on the recurrent laryngeal nerve, and whatever the nature of the cough it had usually been of long duration. *Expectoration* was not present to a marked extent, being noted only in 14 cases, and generally very little in amount. *Hæmoptysis*, chiefly as streaks of blood in the sputum, was noted in 9 cases. *Pain in the chest,* probably due to a small patch of localised pleurisy, was mentioned in only 2 cases. *Anæmia, night sweats, loss of appetite,* and progressive *loss of weight* occurred in most of the cases. The *temperature* variations were not always ascertained, but there were evidences of feverishness in a hot, dry skin, headaches, and in feelings of languor and weariness.

Previous history.—The following illustrative items are taken at random: (1) Had pleurisy a year ago. (2) Is attending tuberculosis dispensary and having tuberculin injections. (3) Has bronchitis every winter. (4) Had pneumonia four times. (5) Has had four attacks of hæmorrhage from the lungs. (6) Had consumption of the bowels in infancy.

As to *family history,* tuberculosis was present in 27 of the 87 cases, or 31 per cent., and in 19 of the 27 cases there was every likelihood of present or previous contact.

CLINICAL PICTURE OF GLANDULAR TUBERCULOSIS AS SEEN IN CHILDREN ACTUALLY ATTENDING ELEMENTARY SCHOOLS.

Out of 283 cases of tuberculosis of all kinds there were 134 glandular cases. The glands of the neck were the seat of disease in all the recorded cases, and in 2 of them the axillary glands were also involved. Affections of the mesenteric glands were included in the abdominal group.

In our previous annual reports attention has repeatedly been called to the fact that the prevalence in children of cervical glands, which can be recognised by palpation, is very great indeed. Slightly enlarged, soft, homogeneous, but quite definable glands occur in many healthy children without any discoverable peripheral cause, and are probably not in any way pathological.

There are also many cases of indolent enlargement of glands distinctly associated with verminous heads, carious teeth, impetiginous eruptions, etc., which subside readily on removal of the cause of irritation. These two classes, however (the non-pathological and the slightly pathological), present no difficulties of diagnosis; but the school doctor is still confronted with a large number of cases of marked chronic enlargement of the cervical glands, regarding which the decision must be made as to their nature and origin. Syphilitic enlargement and Hodgkin's disease are practically non-existent among our school children, and if such should occur they would be immediately recognised by evidences of the disease elsewhere; so that the diagnosis resolves itself into a differentiation between (1) a definite tuberculous process, (2) possible enlargement and suppuration due to organisms other than tuberculous, and (3) the simple glandular hyperplasia so frequently associated with enlargement of the lymphoid tissue of the throat and fauces, which tends to undergo spontaneous atrophy at the time of puberty.

The cases considered in this paper were, generally speaking, of such a nature that there could be no question of their tuberculous origin. They were, however, of very varying degrees of development and severity. In some there was noted merely the simple enlargement of one gland or more to the size of a pea, bean, pigeon's egg or walnut, and such glands were most frequently situated near or below the angle of the jaw on one or both sides. It was rare for the hypertrophy to be so extensive as to form large tumours on both sides of the neck. Such cases may probably have been found among the eighteen cases showing scars of previous operation.

Where several glands were affected in the same child they were not, as a rule, all in the same stage. Some of the affected glands were described as hard and shotty, some showed signs of softening, some were matted together in a lumpy mass or were fixed to the skin, which was stretched and thin, with periadenitic adhesions. In a few cases there were discharging sinuses, with large, irregular, ulcerated edges and a purulent, watery discharge, but discharging cases would usually be away from school and under treatment.

In 43 of the 134 cases abscesses had burst spontaneously, leaving the typical bright red scars, some deeply sunk and some raised into prominent ridges from excessive fibrosis.

In the earlier cases, before the forming of the characteristic "cold abscess" had taken place, diagnosis of the tuberculous origin of the condition was aided by (1) the presence of scrofulous manifestations elsewhere (pulmonary, osseous, or abdominal tuberculosis was present in seven of the cases), (2) the history of the occurrence of tuberculosis in the family (present in five cases), and (3) the general appearance of the child and certain constitutional symptoms—a delicate look, moist hands, poor nutrition, anæmia, and occasional feverishness would suggest the possible presence of a tuberculous process.

Tuberculosis of bones and joints occurs in such a great variety of forms, and affects so many parts of the body among the recorded cases, that a composite clinical picture cannot well be presented. The tuberculous process usually affected a single joint or bone, and in the following frequency: Hip, 16 cases; knee, 7 cases; spine, 6 cases; lower maxilla, 3 cases; ankle, tibia, and humerus, 2 cases each; femur, elbow, wrist, ulna, and fingers, 1 case of each. In a few instances the particular bone or joint was not specified.

The disease was rarely seen in its active stage, but chiefly when quiescent, and the cases showed the results of the previous disease in deformity of varying degrees—atrophy of muscles, marks of old sinuses, and ankylosis or stiffness of joints.

The cases of abdominal and cutaneous tuberculosis are too few to make a description of any value.

EXTERNAL EYE DISEASES OF ELEMENTARY SCHOOL CHILDREN.

By Barbara Richardson, M.B.,
Assistant School Medical Inspector, Staffordshire County Council.

The following paper is based on the medical notes of all the children who had external eye disease on the day of medical inspection in 1914. It refers to the children of 5–6 and children of 12–14, these being the only groups inspected that year.

When a child is up for routine inspection and is found to have some ailment likely to interfere with its well-being or education a "revise" card is opened for it, and at subsequent visits the child is again seen and the progress of its ailment noted. Thus in the case of the older children we generally have more or less adequate medical notes. In the case of children 5–6 there is for the most part only the entry of the first observation.

It is, however, necessary to bear in mind the nature of the field of inquiry, its extent, and its limitations. At the inspections there is an average of about 10 per cent. or 12 per cent. of those on the rolls who are absent from one cause or another, and among the absentees would, of course, be relatively a larger proportion of ailing children than among those attending school. Especially would children with inflamed or infective eyes be absent.

The objects of the research are (1) to determine the incidence of external eye diseases according to the age and sex of the sufferers (vision defects are also referred to, by the way, in this connection); (2) to indicate the particular eye diseases found and their relative numbers; (3) to note how far the incidence of the diseases seemed to be influenced (*a*) by the child's environment, (*b*) by the constitution of the child as shown by the other disorders it was suffering from; (4) to write out a clinical description of the various external eye diseases of children as they present themselves to a school doctor; (5) to investigate the statement pretty generally accepted that defective vision predisposes to blepharitis; (6) to illustrate the relationship of the common infectious diseases to external eye diseases; also (7) the relationship of skin diseases, and (8) of adenoids and enlarged tonsils, all of which have been supposed to have a connection with external eye diseases.

The total number of children up for their routine inspection in 1914 was:

	Boys.	Girls.
Age 5–6 . . .	4310	4265
„ 12–14 . . .	4840	4898
	9150	9163

(1) *Age and sex.*—The incidence according to age and sex of all external eye diseases taken together is illustrated in the following table:

Year 1914.	Age, 5–6.		Age, 12–14.	
	Boys.	Girls.	Boys.	Girls.
Total inspected . . .	**4310**	**4265**	**4840**	**4898**
No. of external eye diseases	126	155	142	205
Percentage	2·92	3·63	2·92	4·18

Thus there is a larger percentage among girls than among boys, and, as might have been predicted owing to the prolonged risks of life, there is on the whole a larger percentage among the 12–14 group than among the 5–6's, though, as it happens this year, the increase shows itself chiefly among the girls.

In order to judge of the amount of significance to be attributed to these differences according to age and sex a table has been prepared based on the accumulated figures of five previous years, viz. 1908 to 1912, and in it we see the same proportional differences:

Years 1908-12.	Age, 5-6.		Age, 12-14.	
	Boys.	Girls.	Boys.	Girls.
Total inspected . . .	**18,846**	**17,630**	**9484**	**9653**
No. of external eye diseases	742	844	407	496
Percentage	3·93	4·78	4·29	5·13

The larger general percentage of cases in the years 1908–12 is due to the fact that the figures are taken from the Annual Reports and not from the children's medical records. In the Annual Reports diseases and not children are counted; the same child might have blepharitis and some conjunctivitis as well.

It is quite clear, taking all external eye diseases together, that girls invariably show a larger number of cases proportionately than boys. And what is true of these diseases in the mass is true also of the separate diseases blepharitis, conjunctivitis, etc., more girls seem to suffer from them than boys.

This is undoubtedly an interesting and unexpected fact, and incidentally it may be stated that we have almost invariably noted a similar difference year by year in the matter of squints. Still, in squints the difference between boys and girls is very small and not quite constant.

This greater liability of girls to external eye diseases, and to a much smaller extent to squint, is of interest in relation to the well-known fact which has been much discussed by school medical officers of the greater liability of girls to vision defects. It is always found that many more girls fail at the Snellen tests than boys. Our own figures for the children of 12–14 in 1914 (we do not test children of 5–6) are as follows:

	All degrees of vision defect. Year 1914.
Boys	26·78 per cent.
Girls	33·15 ,,

The percentages for the three years 1909–10–11 were: Boys, 28 per cent.; girls, 32·5 per cent. But the point need not be laboured, it is admitted.

The disability on the part of girls is sometimes explained by supposing that the eyes of girls are subjected to much greater strain from fine sewing, etc., than those of boys. It has never seemed a quite satisfactory explanation, because the time devoted to sewing—an hour three times a week—always appeared somewhat insufficient to cause a permanent and rather rapid deterioration of the physical powers of the eye.

In any case, before attempting an explanation we should see whether the disability of girls affects the major optical disorders or only the trivial minor ones. A major defect causing the child to fail to take Snellen $\frac{6}{18}$ or worse, could not mean other than a serious organic defect of the optical media. A minor defect, leading to vision being, say, $\frac{6}{9}$, might easily be due to a more trivial cause, a temporary blurring of the conjunctiva, or a slight temporary functional inactivity or failure of the accommodating mechanism.

In 1914, as has just been said, the boys showed 26·78 per cent. of vision defects, the girls 33·15 per cent.; that is to say, girls showed 23·7 per cent. more cases than boys. On closer study it appeared that among the quite trivial cases the girls had only 13·1 per cent. more cases than the boys, while among the grave and no doubt organic optical defects the girls had no fewer than 41 per cent. more cases. But in another group of over 4000 children inspected from the year 1909 suitably tested showed that the girls had 13·9 per cent. more cases than the boys. Here, on closer scrutiny, it is found that among the trivial cases the girls had 21·5 per cent. more cases than the boys, while among the more serious cases they had only 4·5 per cent. more. The sex inequality therefore is probably general at every degree of defect and not confined to the trifling cases.

In fact, it would seem, whatever the cause, that the eye in girls is a more delicate organ, more easily put out of order, than in boys. That the inequality extends to all eye diseases and is not confined to vision alone does not make more easy of acceptance the current explanation of the vision defects as due to the sewing classes, etc.

(2) *List of external eye diseases discovered at inspections.*

EXTERNAL EYE DISEASES.

Year 1914.	Age, 5–6.		Age, 12–14.	
	Boys.	Girls.	Boys.	Girls.
No. inspected	**4310**	**4256**	**4840**	**4898**
1. Blepharitis	87	99	88	141
2. Conjunctivitis:				
Catarrhal (non-infective) . .	22	24	28	24
Muco-purulent	2	1	1	—
Granular	—	1	—	—
Phlyctenular	8	14	3	14
Gonorrhœal (results of) . .	—	—	1	—
3. Opacities (cause undiagnosed) .	4	10	7	20
4. Interstitial keratitis . . .	—	1	1	—
5. Traumatic:				
Scars or opacities . . .	1	1	2	—
Removal after injury . . .	—	—	1	—
Cataract	1	—	—	—
6. Congenital cataract . . .	—	—	1	1
7. Various:				
"Corneal injection" . . .	—	—	1	—
Phthisis bulbi	—	—	—	1
Ptosis	—	—	2	—
Styes	1	4	6	4
Totals . . .	126	155	142	205

(3) *Influence of environment and constitution.*—There are not perhaps any extremely marked differences of social *environment* among the elementary school children in the administrative area of Staffordshire, still some children are better off than others.

A rough indication of this difference in environment, such as it is, may be sought in the record of the smallness of the house inhabited, in the fact that the mother goes out to work regularly, and in the state of the child as to clothing and personal cleanliness on the day of inspection. Unfortunately with regard to size of house and habits of the mothers as to work we have no exhaustive record, the information comes to us haphazard, so that we can only compare the percentage of recorded cases from a sectional group with the percentage from the whole group. Still, it seems evident that if we selected a sectional group characterised by some condition definitely and essentially associated with smallness of house or absence of mother, the reported cases from that sectional group would tend to exceed the percentage from the whole group.

The records of personal cleanliness and state of clothing are, of course, exhaustive and complete; the observation is made in regard to every child.

The results as to environment will best be shown at a glance in one summary table. The age groups and sex groups were first tested separately as well as the particular groups of diseases which constitute the entire group of external eye complaints; but as the various groups were found to give each other mutual support they are not tabulated separately. Personal uncleanliness is somewhat more noticeable in the eye diseases group, but not markedly so, and, speaking generally, it is clear that differences of environment, as far as they can be inferred from the facts at our disposal, have no very appreciable influence on the incidence of external eye diseases.

ENVIRONMENT AND EXTERNAL EYE DISEASES.

Year 1914.	Number inspected.	Mother an out-worker.	Home, 3 rooms and under.	Poor clothing.	Personal uncleanliness.
		%	%	%	%
Entire group, boys and girls	**18,313**	3·46	7·04	6·93	27·18
Sectional group of external eye disease cases, boys and girls	**628**	3·18	6·68	5·25	30·41

We may now ask what influence *physical constitution or general state of health* has on the incidence of external eye diseases. The question of diathesis, so intensely interesting to the medical practitioner, receives small attention in the text-books. We are left to infer diathesis from what has actually happened to the patient.

There are, however, certain ailments and conditions found amongst school children which justify us in assuming in many if not in all cases a peculiarity of constitution which might or might not predispose to external eye ailments.

Such conditions or ailments are anæmia, rickets, tuberculosis, and malnutrition. The latter, there is reason to think, judging from our studies of it in Staffordshire, is only rarely connected with actual lack of food or improper feeding, but rather with deeper seated disorders of assimilation and metabolism.

When we take the sectional group of external eye disease cases and compare it with the entire group of children inspected in 1914 in regard to the incidence of the above-mentioned disorders we find the following facts:

PHYSICAL HEALTH AND EXTERNAL EYE DISEASES.

Year 1914.	Number inspected.	Anæmia.	Rickets.	Tuberculosis.	Malnutrition.
		%	%	%	%
Entire group, boys and girls	**18,313**	14·98	2·8	1·41	17·43
Sectional group of external eye disease cases, boys and girls	**628**	11·78	2·7	1·75	26·59

As to *anæmia*, there were actually fewer cases among the external eye disease group than the average, and the difference was constant in all the constituent sub-groups; clearly anæmia does not predispose to external eye diseases. In *rickets* there is the same proportion of cases in the eye disease group as in the average. In *tuberculosis* there is a slight preponderance of cases in the eye disease group, but the numbers are small, and the preponderance is not constant in all the sub-groups. In *malnutrition*, however, there is a marked preponderance among the external eye disease group, and the difference is constant in all the sub-groups whether of age or sex, whether blepharitis, conjunctivitis, etc. Whatever be the complex of causes leading to the appearance of so-called malnutrition, they are certainly causes some or all of which favour the development of external eye diseases.

(4) *Clinical pictures.*—Only those types of disease are described which occurred in numbers sufficient to justify a summary statement.

Blepharitis, as described in the clinical notes of the medical inspectors, seems to fall into two fairly distinct groups, one in which the eyelashes are sparse and the margins of the lid scaly and dry and frequently associated with seborrhœa of neighbouring parts, and the other more striking eczematous type with red and crusted hyperæmic margins and matted eyelashes. In the latter type the child often complains that the lids stick together in the morning, and it is sometimes, though not very frequently, associated with eczema or impetigo of the face. In a few long-standing cases where treatment is neglected the lids become very red, unsightly, almost denuded of lashes, and accompanied by entropion or ectropion. The sequelæ are rarely serious, however. In only two cases out of the total of 415 were the latter conditions of entropion or ectropion noted; the disease is, indeed, one which yields rapidly to treatment.

The medical inspector did not always record an opinion as to which of these two types a case of blepharitis belonged; perhaps it was not always possible to form an opinion, but it may be suspected that in some cases close attention was not given to the point. Twenty of the cases are definitely noted to have been seborrhœic and 14 eczematous. Sometimes improvement of the blepharitis was stated to have followed correction of errors of refraction.

Catarrhal conjunctivitis.—There were 98 cases in all. Under this heading we have included all cases of conjunctivitis which were considered non-infective or practically so—where there was conjunctival injection associated with excessive secretion, aqueous, sometimes mucous but not purulent. The feeling of a gritty substance in the eye, burning sensation, and inability to open the eyes in the morning because the lids stuck together were frequent symptoms, but photophobia was rarely mentioned.

Out of the total of 98 cases there was accompanying blepharitis in 10. The defective vision noted in 18 out of the 52 cases occurring in the 12–14 group—we do not test the 5–6's—was quite possibly largely due to haziness caused by a film of the excessive secretion.

Age and sex seem to have little, if any, influence on the incidence of this form of conjunctivitis; at all ages and in both sexes about one child in 200 up for routine inspection had this complaint.

In this particular group of 98 cases there was a large preponderance of cases of genuine tuberculosis as compared with the incidence of this disease among all the children examined. A group of 98 cases, however, is too small to allow of any definite conclusion being drawn.

Phlyctenular conjunctivitis, also called eczematous kerato-conjunctivitis and strumous keratitis, is not a very common disease among our school children, but owing to the frequency of serious results it is worthy of special consideration. There were 39 cases discovered at inspection in 1914, of whom 11 were boys and 28 girls, although the numbers of girls and boys inspected were about equal. Age seemed to have but little influence on the incidence of the disease in this year's group; there were 0·25 per cent. of cases at 5–6 and 0·17 per cent. at 12–14. The types met with varied considerably from the small phlyctenule occurring on the bulbar conjunctiva surrounded by an area of sub-conjunctival injection, causing comparatively little discomfort, to single or multiple small ulcers on the cornea occasionally connected by a bundle of inflamed vessels with the corneo-scleral junction. These ulcers were generally superficial, but occasionally penetrated deeply, leaving dense opacities, and in one case a staphyloma had resulted. In these more advanced cases there was much associated photophobia, lacrymation, and plepharospasm. Opacities had resulted, causing impairment of vision in many instances.

Phlyctenular disease of the eye had the same kind of association with impairment of general health as was found to be the case with external eye diseases in general. Anæmia was not more frequently found than in the average of children; it so happened there was not a single case of rickets among the 39 cases under consideration, but it was rather different with tuberculosis. An important modern view of phlyctenular eye disease is that it is caused by endogenous toxins of the tubercle bacillus with a superadded infection of the *Staphylococcus aureus.** In this connection it is interesting to note that out of the 39 phlyctenular cases only two had declared and manifest tuberculosis, and one was suspected to have tuberculosis of the lungs. This number of tuberculous and suspected tuberculous cases is certainly beyond the general average incidence of tuberculosis among the children inspected during 1914 (p. 206). Still, it has to be admitted that 2 or 3 out of 39 leaves a large preponderance of the phlyctenular cases with no apparent connection with tuberculosis. But was there any latent tuberculosis? As some slight hint or evidence of latency it may be mentioned that 14 of the children had enlarged tonsils, or adenoids, or both, and that 2 had palpable cervical glands. All these conditions, however, are very prevalent among children at large.

Considering all the facts it may be said that the tuberculosis theory receives some support from our figures, but tuberculosis can only be a small factor in the production of the total number of cases. (See paper on "Tuberculosis in Elementary Schools," p. 183).

---

* Pfaundler and Schlossmann, 'Diseases of Children,' vol. vii, 1914, p. 136 *et seq.* Philadelphia and London: Lippincott.

With regard to the possible ectogenous infection the following facts were noted: (1) Blepharitis was present in 6 of the 39 cases. (2) Muco-purulent conjunctivitis had preceded in another case. (3) Measles had occurred recently in one. (4) Fourteen cases out of the 39 showed signs of personal uncleanliness; this is about 36 per cent., and somewhat in excess of the proportion of unclean children in the eye disease group as a whole. It is, however, not so markedly in excess of the percentage of children generally (p. 205) as to make one believe that personal uncleanliness is an important factor in causing phlyctenular disease, though it may contribute to some extent.

It has been suggested* that phlyctenular conjunctivitis is peculiarly apt to occur in children devitalised by carious bone disease and especially disease of the petrous bone (otorrhœa). It is therefore interesting to note that there are four cases of otorrhœa out of our 39 cases of phlyctenular disease. This makes 10·25 per cent. As the percentage of otorrhœa in the totality of children examined in 1914 was only 1·7 our figures may be said to give countenance to the idea, but we must remember that the basic figure—39 cases —is small for generalising.

If it be accepted that there is a high degree of association or correlation between otorrhœa and phlyctenular disease of the eye, it does not follow that one is the cause of the other. It is just as likely that both proceed from a common tendency.

Opacities of undiagnosed origin.—There were 41 cases, 14 at age 5–6 and 27 at age 12–14, *i. e.* a marked preponderance at the latter age. There were 11 cases among the boys, but as many as 30 cases among the approximately equal number of girls.

Under this head we include all cases of opacity in which the history of the case and the character of the opacity were not sufficiently defined to allow of a clear diagnosis. A small circular opacity situated near the periphery of the cornea in a child obviously of the strumous delicate type would probably be at once placed in the phlyctenular or strumous keratitis group; but there would be many instances where the condition was indefinite enough to lead the inspector to suspend judgment, and of these no doubt many also had their origin in a strumous ulcer. The opacities varied considerably in size, density, situation, and the degree with which they interfered with vision. Of the 27 cases at the age 12–14, who alone were tested for vision defects, in three only was vision perfect to Snellen's test; in 22 of the cases the defect was $\frac{6}{18}$ or worse in the affected eye.

---

* Pfaundler and Schlossmann, *loc. cit.*, p. 139.

An analysis of the whole 41 cases gave the following results: (1) Sixteen children showed signs of personal uncleanliness; this is distinctly above the average. (2) Signs of poverty or neglect in disreputable clothing, houses of three rooms or under, or where the mother was an outworker, were found in 7 cases; not essentially different from the average. (3) Anæmia in 8 cases; somewhat above the average. (4) Malnutrition in 14 cases; this is remarkably above the average, as it is in all the other external eye diseases. (5) Tuberculosis in three cases, or 7·31 per cent., and one other case in which its presence was suspected. This is an incidence decidedly in excess of the average percentage of 1·41 (p. 206), but still it leaves most cases of opacity with no taint or suspicion of tuberculosis, unless we permit ourselves great freedom of speculation as to latency. In support of possible latency it may be mentioned that there were enlarged tonsils in 19 out of the 41 cases of opacity, or 46·34 per cent., and mouth breathing, indicative of possible adenoid growth, was present in 10 cases, or 24·39 per cent. Both these percentages are decidedly in excess of the average (p. 213).

The cervical glands were palpable in seven cases, and otorrhœa was noted in one, but in neither of these conditions is the incidence appreciably or significantly more marked than in the entirety of children inspected.

One of the cases of opacity was stated to be the result of chronic granular conjunctivitis, and in one there were anterior synechiæ, pointing to a history of deeply penetrating ulcer.

(5) *Defective vision and blepharitis.*—It is very generally accepted that blepharitis is associated with defects of vision, and our school figures enable us to test this statement. If the degree of association is excessive it is clear that the blepharitis group will show a preponderance of vision cases, and the defective vision group a preponderance of blepharitis cases, as compared with the average.

We do not test the children of 5–6 for vision defects, and the older children are tested by Snellen's and Jaeger's types. The figures are as follows: Out of 9738 unselected children 2921, or 29·96 per cent., had defective vision; whereas out of 229 cases of blepharitis 96, or 41·92 per cent., were defective—a marked excess. On the other hand, out of the 9738 unselected children 229, or 2·35 per cent., had blepharitis; whereas out of the 2921 cases with defective vision 96, or 3·28 per cent., had blepharitis—again a marked excess. The figures, therefore, may be considered to lend support to the current view. When, however, we come to dissect the records of defective vision and take by themselves all the extremely slight cases—viz. those who can take $\frac{6}{9}$ Snellen—we find the excess occurs among these minor cases almost exclusively. Therefore the excess of vision defect, associated with blepharitis, may, in all probability, be explained as a superficial and unimportant matter—viz. as due to the blurring incident to swollen and, perhaps, discharging lids.

(6) *The relation of the common infectious diseases of children to external eye diseases.*—This has always been a point of great interest to clinicians, and our figures enable us to offer a contribution to the subject.

It has almost been taken for granted that many cases of external eye disease, especially blepharitis and conjunctivitis, have had their starting-point in some—perhaps long previous—attack of measles or scarlet fever, etc. If that were so to any extent, we should expect to find a disproportionate number of histories of measles, scarlet fever, etc., in the external eye diseases group as compared with the average. This, as we shall see, is not the case.

It is the duty of the head teacher to ask parents when the child enters school which of the common infectious diseases the child has previously suffered from, and to enter the facts on the schedule; further, as the child continues at school, the teacher enters any such diseases for which the child may be kept away from school. The information is not in every case available, and thus there is an element of chance in the records; but as no selection is exercised, the haphazardness may be presumed to fall equally on all sub-groups of the children. Thus, records of the occurrence of such diseases can only be taken as a rough indication of their prevalence.

Taking all the 628 cases of external eye diseases together and comparing them with all the 18,313 children examined in 1914, it was found that none of the ordinary infectious diseases occurred more frequently in one or the other group. The percentage in each instance was almost identically the same.

Common Infectious Ailments and External Eye Diseases.

Year 1914.	Number inspected.	Measles.	Whooping cough.	Chicken-pox.	Scarlet fever.	Mumps.	Diphtheria.
		%	%	%	%	%	%
Total group . .	**18,313**	39·52	17·76	9·22	6·75	11·06	2·53
Eye diseases group	**628**	40·6	16·4	9·71	7·0	10·98	1·75

On analysing the different classes of eye diseases separately—especially in regard to blepharitis, catarrhal conjunctivitis, phlyctenular conjunctivitis, and opacities—these showed very little variation from the percentages in the whole group, with the single exception of an apparently accidental rise to 27·4 per cent. of whooping-cough histories among the catarrhal conjunctivitis group.

It would seem, therefore, that previous attacks of the common infectious diseases have little or no influence on the incidence of external eye diseases. The effect of existing measles, whooping-cough, etc., can, of course, form no part in our investigation, as children suffering from such diseases are naturally excluded from school and out of reach of the school inspector.

(7) *Relation of skin diseases to external eye diseases.*—Facts already discussed in regard to the connection of blepharitis with seborrhœa and eczema respectively make it of interest to know what is the general relation of external eye diseases to skin diseases.

We usually now classify skin diseases into ringworm, scabies, impetigo, and "all other." The latter group in practice is found to consist of seborrhœa, eczema, psoriasis, intertrigo, herpes, acne, and very occasionally skin diseases of the ichthyotic type. Among them seborrhœa and eczema very decidedly preponderate. In our study of the incidence of "all other" skin diseases we have never found any consistent variation or material difference in regard to age or sex.

When we consider the total group of 18,313 children of all ages and both sexes examined in 1914, the percentage of "all other" cases is found to be 6·1, while when we bring together all external eye disease cases—628 in number—similarly combined as to age and sex 10·35 per cent. are found to be suffering from the skin diseases so enumerated. There is, therefore, a slight excess in the eye disease group.

But when we come to dissect the various tables we find the excess is almost entirely confined to the blepharitis group, for out of 415 cases of blepharitis 54, or 13·01 per cent., had "other" skin diseases (four out of every five of which were seborrhœa or eczema), while in the remaining 213 cases of external eye disease there were only 11 cases, or 5·16 per cent.; and in no other single group of these eye diseases did the percentage of skin diseases rise over 7·31 per cent. This preponderance in the blepharitis group is what we might expect when we remember that seborrhœa and eczema constitute the bulk of "other" skin diseases, and when we remember also the close association of blepharitis with seborrhœa and eczema.

(8) *Relation of enlarged tonsils and adenoids to external eye disease.*—In Prof. Oskar Eversbusch's article on external eye diseases in Pfaundler and Schlossmann's 'Diseases of Children'* it is stated that adenoids, enlarged tonsils, pharyngitis, in fact, hyperplasias of lymphoid tissues generally, are contributory factors in causing phlyctenular conjunctivitis. We are also reminded that von Hoffmann was the first to point out the connection of eczematous phlyctenular conjunctivitis and obstinate eczema and inflammation of the lid margins with similar tonsillar affections, and affections of the lacrymal ducts. How far is this statement borne out in our experience?

A word on our method of tabulating the throat affections found in school may not be out of place. The routine practice of palpation of the nasopharynx in all cases has not been found practicable. We do not now use the term adenoids in our routine tables, but have adopted the classification of mouth breathers in its place. In the year under investigation the term included all children who habitually sat with mouth open, even though on more exact examination there was found no marked obstruction to breathing.

The relation of mouth breathing as thus defined to adenoids is one of great interest to school doctors. In the absence of regular nasopharyngeal palpation in Staffordshire we have not the data for drawing conclusions, but there is every reason to think that the conclusions of Mr. Macleod Yearsley,† founded on the exhaustive examination of 1246 London children, may be taken to apply to Staffordshire children. For instance, he found that his London children showed 13·9 per cent. of mouth breathers, whereas we found in 1914 14·3 per cent.; he found that 32·5 per cent. of his children had enlarged tonsils, and we found 31·2 per cent. of ours. Therefore, when he says he found that 37·8 per cent. of his children had adenoids, we may reasonably assume that our children had a somewhat similar proportion; and when he says, further, that only one-seventh of his mouth breathers were free from adenoids or tonsils, we may feel assured that our experience would have been similar had we put the matter to the test.

In other words, the mouth breathers in our groups of children may be taken as a rough index of the prevalence of adenoids, though by no means indicating the total numbers of adenoid cases. Having explained this, we may go on to the comparison.

When we examine the entire group of children inspected in 1914 we find that 14·3 per cent. of them were mouth breathers. When we examine the external eye disease group, we find 17·6 per cent. This is quite a considerable rise—viz. 23 per cent. or 24 per cent. As regards enlarged tonsils of all degrees we find 31·2 per cent. in the entire group and 36·5 per cent. in the external eye disease group—again a fairly marked increase.

---

* Vol. vii, 1914, p. 139.

† Macleod Yearsley, BRITISH JOURNAL OF CHILDREN'S DISEASES, 1910, vii, p. 61.

When attention was directed to the constituent members of the external eye disease group, the result was, speaking generally, the same. Thus we may conclude that the increase in the prevalence of adenoid hyperplasia in the eye disease group does represent a significant fact.

On the other hand, the difference is by no means marked enough to suggest a predominant causal relationship. After all is said, the majority of external eye disease cases show no signs of adenoid hyperplasia. What seems likely is that the same type of child, with the same diathesis, may be prone to suffer from both hyperplasia and external eye diseases.

LACERATION AND INFECTION OF JOINTS IN CHILDREN.

By Alex. Mitchell, M.Ch., Capt., R.A.M.C.T., Aberdeen.

Since the outbreak of war in 1914, so insistent has been the call to alleviate human suffering, to preserve the vitality of injured parts and, when possible, to restore to them their full function, that many new methods of treatment have been established.

One of the most practical and efficient seems to be the modern method of dealing with lacerated and infected joints, and its value is increased by the fact that it can be applied to civil as well as to military practice.

If anyone has the courage to review all the cases of infected joints which he has seen treated or, better still, has been himself responsible for the treatment of, and to consider the results impartially, he must admit that the older methods of treatment left a great deal to be desired, and that the new ones give hope of better results.

A fair proportion of cases—mostly those in which the synovial membrane had not been injured—when treated by Murphy's method of immobilisation, extension, and repeated aspiration, combined with injection of glycerine and formalin, made a good recovery with normal function. When this failed, opening up the joint, irrigation, and the insertion of drainage-tubes into the synovial cavity, if successful in combating the infection, resulted in most cases in a stiffened or an ankylosed joint.

While it is generally admitted that free opening of a joint, followed by the insertion of drainage-tubes, results in more or less complete loss of function, the idea is often advanced that greater liberties can be taken with a child's joint, and that, in spite of fairly drastic treatment, the joint will recover its function. Although there is certainly more hope of recovery in early life, neither is the difference so great nor is it so consistent as to justify the old plan of treating infection, especially when one remembers that the production of a stiff joint in a child is always more of a tragedy than in the case of a patient well advanced in life.

The importance of this subject and its direct bearing on civil practice have made me venture to record three cases of lacerated and infected joints which were admitted to the Aberdeen Royal Hospital for Sick Children since the time when first I had the opportunity of seeing the treatment carried out by Col. H. M. W. Gray in France in 1915.

The technical details are now well known, having been fully described by several writers (*vide* references). The main points are complete immobilisation along with extension, careful excision of all infected tissue, including synovial membrane, in the wound track, removal of foreign bodies when these are present in the joint, and washing out all *débris* and clots with a weak antiseptic or preferably with saline solution, which does not cause any irritation of the synovial membrane. This is followed by immediate closure of the synovial membrane or, when infection of the synovial cavity is evident, by placing of small drainage-tubes down to the openings in the synovial membrane and fixing them so that they do not project into the joint cavity. The rest of the wound is left unsutured and dressed with a salt pack or Bipp dressing, which should not be disturbed until the synovial wound has had time to heal. When tubes are used they should be removed as soon as is possible.

If the joint shows any sign of increased tension it must be aspirated from time to time. Glycerine and formalin or hypertonic saline solution may be injected, but this is probably not an essential part of the treatment.

Immobilisation must be maintained without a single intermission until all fear of lighting up the infection by movement is past.

Cases.

Boy, aged 5½ years, admitted on November the 17th, 1915. History of five days' illness, complaint of pain in right hip and right knee-joints, and of tenderness when the hip was touched or moved.

On admission, temperature 100° F., pulse 120. Right leg abducted and rotated out. Pressure over region of hip-joint or on great trochanter caused pain. Movement at hip-joint impossible on account of pain. There was some swelling evident near the front of the joint.

A skiagram showed an appearance suggestive of an osteomyelitis of the neck of the right femur. The joint was opened through a posterior incision and was found to be full of very thick pus. Careful examination of the head and neck of the femur, especially in the region of the epiphyseal line failed to show any roughening or irregularity of the bone. After irrigation a small rubber drain was placed down to the synovial membrane. The wound was partially sutured and a saline dressing put alongside the tube. The limb was immobilised and extended in an abducted position. The tube was removed in twenty-four hours, and the dressing three days later, by which time the pulse and temperature were normal. The wound healed by granulation, and in two months the limb was fixed in plaster of Paris.

According to the pathologist's report the infection was due to an organism "probably pneumococcus."

Boy, aged 7 years, admitted February the 28th, 1916. History of having been hit, five days previously, on the left knee by a sharp stone. A simple dressing had been applied to the knee, which had become swollen and very painful. On admission, temperature 103° F., pulse 126. Small abrasion on the left of the patella. Joint distended, painful and tender. The "abrasion" was examined under an anæsthetic and found to be a small perforating wound of the knee-joint. The wound track was completely excised and a small opening made into the joint on the other side of the patella. A large quantity of purulent clot was pulled out, and, after irrigation, tubes were placed down to the synovial openings. The joint was immobilised and extended. After operation there was a profuse septic discharge from both tubes The pulse and temperature remained elevated. Irrigation with weak carbolic solution and with saline solution was done through the tubes twice daily. At the end of a week there was no improvement, and the general condition was getting worse. On the eighth day the irrigation was discontinued and the pulse and temperature fell to normal within twenty-four hours. After this the discharge became gradually less, and the tubes were removed about the fourteenth day and replaced by salt dressings. In a month after operation the wound was firmly healed and there was very little swelling of the joint. The leg was then fixed in plaster of Paris.

The infection of the joint was due to a streptococcus.

Irrigation of the joint in this case appeared to have done harm, and to have prolonged the activity of the infection.

Boy, aged five years, admitted October the 12th, 1916. A few hours before admission the wheel of a cart had passed over his left foot.

On admission, pulse 98, temperature 98° F. There was a wound running over the dorsum and outside of the left foot, with a compound dislocation of the ankle-joint. Under an anæsthetic the lacerated edges of the wound were excised along with the infected fascia and synovial edges. The tendons on the dorsum of the foot were exposed, but not divided. The peroneus longus tendon was found to be completely divided, and the bony attachment of the posterior part of the external lateral ligament was torn from the os calcis.

A considerable amount of extraneous matter had been forced into the joint. After irrigation and reduction of the dislocation the synovial membrane, the peroneal tendon, and the torn lateral ligament were sutured. After partial suture of the skin wound, a salt pack was placed in the lower part of the wound and the foot fixed on an ankle-splint, so that the dressing could be changed without disturbing the joint. A prophylactic dose of anti-tetanic serum was given. After operation the pulse rose to 120 and temperature to 103° F., but they gradually came down to normal in about four days. There was slight infection of the skin wound which was well healed in about a month, when the patient was discharged from hospital with the foot fixed in plaster.

The after-treatment of all these cases consisted in fixation for about one month after the wounds healed, then massage and passive movement. Had better facilities for massage been at our disposal it would have been started sooner. In all three cases practically complete functional recovery had taken place in from three to six months after the time of operation.

In dealing with such conditions in young children, where the local discomfort is often great and the general condition poor, one's greatest difficulty lies in the management of the immobilisation.

When properly made splints of the types recommended by Sir Robert Jones can be obtained, they should be used, as they ensure real rest, which is not interfered with when the patient is carried out into the open air, where he should be taken as much as possible if he is not in a modern hospital where plenty of open-air beds are provided. This applies particularly to the abduction frame for hip cases and to the Thomas' splint for knees. If these splints cannot be obtained, extension by weight and pulley may be employed along with side- or back-splints and sand-bags, but if treatment is likely to be required over a prolonged period these should be replaced by Jones' splints.

When the wounds have healed plaster of Paris will be found equally convenient, and it can be so applied that massage may be done when required.

When any one form of splint is being replaced by another, great care must be observed not to permit of any movement in the affected joint. The exact time at which massage and passive movement may be begun will depend on the nature and progress of each case, but in no case should any manipulation which appears to cause pain be persisted with. If, after any attempt at movement, the patient complains of pain, and shows any sign of recurring synovitis, the joint should be rested completely for a week or two before any further movement is tried.

In knee cases it is important that massage of the muscles of the thigh should be commenced as soon as posssble after the acute infection has subsided, as by preserving the tone of the thigh muscles the recovery of the function of the joint may be considerably expedited.

References.

(1) Gray, H. M. W.—'Brit. Med. Journ.,' 1915, ii, p. 41.
(2) Hull, A. J.—'Surgery in War,' London, 1916.
(3) Lockwood, A. C.—'Brit. Med. Journ.,' 1916, i, p. 153.

PARTIAL SCLEREMA NEONATORUM, WITH REMARKS ON TREATMENT.

By George Pernet, M.D.,
Dermatologist to the West London Hospital,

During the last six years I find that two cases only of sclerema neonatorum, and those partial ones, have turned up in my skin clinic.

Case 1.—A female infant, aged 2 months (N. 4697), came under observation on March the 13th, 1917. One day after birth it was noticed that the skin was thickened and lumpy about the deltoid area of both arms. Similar thickenings were then noticed subsequently about the upper part of the back (scapular areas) and the buttocks. There was also thickening of the left cheek. The condition was that of sclerema. The infant was badly nourished.

The mother had had two living children, and a miscarriage (last of these three pregnancies) a year previously—she thought through lifting.

There was nothing suggestive of congenital syphilis about the child, except perhaps the thickening about the cheek. Nor was there anything observable in the way of syphilis about the mother, apart from the miscarriage, which is always a point to take into consideration.

I put the child on pulv. hydrarg. c̄ cretâ gr. j *ter die p.c.*

The Wassermann turned out negative in both mother and child.

On March the 16th I ordered in addition ung. hydrarg., half strength, to be rubbed into the sclerematous areas, and on March the 31st a saline hypodermic of ten ounces was administered owing to the malnutrition of the child.

The sclerema areas in April were "knubbly" instead of being in a solid sheet; they were obviously undergoing involution. Pulv. hydrarg. c̄ cretâ was continued all through.

The infant went on improving, and was then lost sight of until March the 19th, 1918, when the mother brought the child to my clinic at my request. The child had now quite recovered, and looked well nourished and well grown. There was nothing about the skin.

Case 2.—A female infant, aged 3 months (N. 6018), seen on March the 1st, 1918.

The condition of the skin was noticed from birth. There were areas of sclerema about the scapular regions, especially on the right side, and in the deltoid regions of arms. There were also two symmetrical indurations about the cheeks, better felt than seen. As I have already mentioned, faintly yellowish areas of induration are at times observed in congenital syphilis neonatorum, but there was no other evidence of syphilis about the child, except a conspicuous reddened shininess *en nappe* about the buttocks and genito-anal regions.

The mother had had eight pregnancies (two stillbirths).

The infant was breast-fed and looked fairly nourished. There was nothing suggestive of syphilis about the mother, who looked well and strong.

The mother complained bitterly of the restlessness and constant screaming of the baby, which gave her no rest. The sclerema areas were very tender, and made the child cry more when touched.

I ordered pulv. hydrarg. c̄ cretâ gr. j *ter die p.c.*

The subsequent Wassermann report was negative both in the mother and child.

On March the 8th the mother stated that the child had immediately improved on the treatment and was quiet, and that she herself had "lovely" nights now. The sclerema patches were no longer tender to touch and led to no crying.

The areas were somewhat smaller and less hard. The redness about the buttocks had disappeared.

This child was also lost sight of, but, when brought to my clinic at my request on June the 4th, 1918, I found the child had done well. The nutrition had improved, and the sclerema areas had practically disappeared.

I consider the mercury in both cases cleared up the sclerema as the improvement was so immediate. I think, too, that syphilis could be ruled out. The mercury, therefore, must have acted as an alterative—to use an expression which has become more or less obsolete.

At any rate, mercury should be tried in this class of case. Nor would I hesitate to employ mercury in generalised severe sclerema neonatorum, either by the mouth, or, were that out of the question, by means of inunctions, and *à fortiori* if there were any positive evidence of syphilis either in the mother or child.

The distribution of the sclerema was very similar in both cases, the seats of election being the deltoid and scapular regions, the cheeks, and the buttocks.

MULTIPLE PAPILLOMATA OF LARYNX REMOVED BY OPERATION (SUSPENSION METHOD) AFTER TRACHEOTOMY; DEATH FIVE WEEKS LATER FROM ACUTE MEMBRANOUS TRACHEITIS AND BRONCHITIS.*

By Hunter Tod, F.R.C.S.,
Aural Surgeon to the London Hospital.

A boy, aged 4 years, was admitted to the London Hospital on September the 7th, 1917, suffering from attacks of dyspnœa and stridor, especially when asleep. Symptoms were stated to have dated from birth, but got worse for the two weeks previous to admission to hospital. The vocal cords could not be seen on examination with the laryngoscope owing to an overhanging epiglottis. The child was not hoarse, but could only speak in a whisper.

---

* The case was reported to the Section of Laryngology of the Royal Society of Medicine on December the 7th, 1917.

On September the 12th the child was given a general anæsthetic, but before complete anæsthesia was obtained marked signs of laryngeal obstruction occurred, rendering it necessary to perform tracheotomy at once, as the child was *in extremis.* After the skin incision was made, the trachea was incised straight away; to do this the thyroid isthmus, which seemed to be very large, was cut through. After the insertion of a tracheotomy tube the breathing soon became normal again. The larynx was examined by the direct suspension method and multiple papillomata were found to fill up the larynx. They grew from the right vocal cord, and just above it. They were completely removed, a clear view of both cords afterwards being obtained.

At first the result of the operation seemed most successful, and after the third day there was free breathing through the mouth when the tracheotomy tube was plugged. The tracheotomy wound was small and healed well.

Three weeks after the operation there was some redness round the wound, and some mucus began to be coughed up from the trachea. This was accompanied by an evening rise of temperature from 100° to 101° F. for two or three days. The red area round the wound slowly increased with induration of the subcutaneous tissues. For the next two weeks the mucous secretion increased in quantity, especially after some attacks of coughing. The attacks became worse, and were associated with extreme dyspnœa; and, finally, in addition to the mucus secreted, there was occasionally a considerable amount of blood.

As it was obvious that the child was getting steadily worse, I decided on October the 17th to make a further examination. To relieve spasm, a small quantity of 1 per cent. cocaine with 1 in 8000 adrenalin solution was made to trickle into the trachea along the tracheotomy tube. A very small quantity of chloroform was administered. On removing the tracheotomy tube the opening was found to be lined with thick, gelatinous-looking membrane about $\frac{1}{8}$ in. thick. On inserting a small bronchoscope this membrane could be seen flapping in the trachea during the act of respiration, and extended down in irregular masses as far as the bifurcation of the trachea. I removed a considerable quantity of this membrane, which lined the opening and upper part of the trachea.

During the examination the child had an extremely severe spasm of dyspnœa, and death seemed imminent. Oxygen was administered, and a few drops of cocaine and adrenalin solution were again applied. It was obviously useless to do anything further in the way of surgical interference, but I advised that if further attacks of dyspnœa occurred a soft rubber catheter should be passed into the trachea beyond the tracheotomy tube. This certainly relieved one or two of the subsequent attacks of dyspnœa, but eventually the child died on October the 19th in extreme distress.

The clinical picture was very similar to that seen in a patient suffering from an intrathoracic group situated at the bifurcation of the trachea, and causing death by obstruction of the bronchial tubes.

Report of autopsy (Dr. H. M. Turnbull, London Hospital).—"Patches of thin, granular membrane in upper compartment of larynx. Gelatinous, somewhat tough, yellowish-grey membrane (0·3 cm. thick), lining the lower compartment of the larynx, and the walls of the tracheotomy opening in the first, second, and third tracheal rings, and almost completely filling the trachea, the left bronchus, and the bifurcation of the left bronchus into the bronchi to the left and lower lobes. Right bronchus free. Purulent bronchitis and a few areas of collapse in portions of both lungs."

Films of larynx (prepared at time of autopsy).—"The films were stained: (1) With Gram and neutral red, and (2) by Neisser's method. There were numerous Gram-positive streptococci in chains up to twelve cocci. There were a few staphylococcal groups of Gram-positive cocci. There were still fewer Gram-positive bacilli. There were slightly curved rods measuring 3 to 8μ by 1μ; they exhibited none of the morphological characteristics of diphtheria bacilli."

Microscopical sections of growth removed from larynx confirm the diagnosis of papilloma of larynx.

Postscript (May the 7th, 1918).—I have never seen a case like this before, and I do not think that the members of the Laryngological Section appreciated its rarity. The extraordinary point about the case was that the child did so remarkably well for nearly three weeks. I feel pretty certain that it was a streptococcal infection through the tracheal wound which would never have occurred had the child been fortunate enough to be operated on in a private nursing home instead of in the general ward of a big hospital.

Royal Society of Medicine.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Friday, March the 22nd, 1918.

DR. H. MORLEY FLETCHER, *President, in the Chair.*

A Case of Hæmophilia.—Dr. ERIC PRITCHARD.—A boy, aged 7 years, was admitted to hospital with a large hæmatoma under the palmar fascia. By fixation of the hand on a splint in an elevated position the swelling gradually disappeared, and the boy was able to leave hospital after three weeks' treatment. The mother stated that seven of her brothers had died of bleeding at the age of 1, 5, 7, 9, 11, 14, and 31 years. Her eldest son, aged 10 years, who was still alive, was also a bleeder.

Congenital Morbus cordis.—Dr. J. PORTER PARKINSON.—A boy, aged 9 years, was admitted to hospital at the end of an attack of acute pneumonia. His mother had died of heart disease, and there was a history of similar trouble in her family. The boy was said to have suffered from heart disease since birth, but had been healthy otherwise; there was no history of acute rheumatism. On admission he had signs of consolidation of the right lower lobe of the lung and a temperature of 103° F., which fell by crisis the following day. The heart's apex beat was in the fifth intercostal space just inside the nipple line. The cardiac dulness was normal to percussion, and, on X-ray examination, a loud, rough, long, systolic murmur was heard all over the precordium—loudest at the aortic base, and conducted well up into the neck on the right side. The murmur was also extremely loud over the back of the chest, especially in the interscapular area. A systolic thrill was occasionally felt in the second right intercostal space. The pulse was 96, regular, and rather small. The other organs were normal. There was no cyanosis or clubbing. The boy was much undersized, and his lack of development was shown by only six carpal bones showing centres of ossification instead of seven, which is usual at that age. Dr. Parkinson thought that the condition was one of patent ductus arteriosus, with deficiency in the interventricular septum.

Congenital Morbus cordis.—Dr. ERIC PRITCHARD showed a male child, aged 7 months, who had been admitted to hospital for cough two months previously. On admission loud rhonchi and *râles* were heard over the whole of the back and front of the chest, but no abnormal heart sounds were noted. Sixteen days later the heart was found to be enlarged to the right, and a loud systolic murmur was heard to the right of the sternum. The murmur gradually changed in character, and became less marked to the right of the sternum and more distinct over the usual mitral area. There had never been any cyanosis. There were no symptoms of tricuspid regurgitation, no pulsation in the veins nor enlargement of the liver. At first Dr. Pritchard had regarded the case as congenital, the murmur being obscured by the loud, adventitious sounds in the lungs, but later changed his opinion, though he could not reconcile the auscultatory evidence with any more pathological condition of the heart.

In the subsequent discussion Dr. Cautley stated that he regarded Dr. Parkinson's case as one of aortic stenosis with secondary mitral regurgitation. The murmurs in Dr. Pritchard's case can be attributed to tricuspid regurgitation and mitral regurgitation, due to general dilatation of the heart.

Case of Osteogenesis imperfecta.—Mr. P. B. Roth showed a girl, aged 14 years, who had been apparently a perfectly healthy baby. When 16 months old one femur was fractured, and since then she had had ten fractures of her thigh-bones—seven of the right femur, and three of the left. The last fracture took place when she was 9½ years old. She was wearing a Hoefftcke splint at the time. When she was 7 years old cuneiform osteotomy was performed on both femora by Mr. Carless; the right femur united splendidly, but the left took a very long time. She was first seen by Mr. Roth at the age of 12, since when the limbs had been kept in Thomas's calliper knee-splints, and attempts had been made by bands and knee-caps to straighten out the various deformities. Mr. Roth had recently done a cuneiform osteotomy of the left tibia to rectify the severe bowing forwards of the bone. The operation, which took place on October the 8th, 1917, had been a success as regards alignment, but bony union had been somewhat delayed, and union was not yet absolutely firm.

The upper end of the right tibia showed a marked deformity, causing the knee to be extremely recurved. A skiagram showed that a bend had taken place half an inch below the epiphyseal line with the concavity forwards.

Coagulation of the Blood in Purpura and Hæmophilia.—Dr. W. Palmer Lucas described the results of clinical experiments carried out at the University of California according to the methods laid down by W. H. Howell, Professor of Physiology at the Johns Hopkins Hospital. There were three factors essential to clotting: (1) Prothrombin; (2) thrombin elements; (3) antithrombin—a substance which held the blood in solution. In cases where the coagulability of the blood was diminished, there was either an increase of antithrombin (as in purpura due to streptococcal infection, and in some cases of jaundice) or a decrease of prothrombin. In Henoch's purpura prothrombin was decreased during an attack; the decrease was very pronounced, and the amount of prothrombin present was always below the normal. In blood transfusion for purpura Dr. Lucas preferred whole blood to serum, as in some serums there was an excess of antithrombin. Good results had been obtained from blood transfusion in purpura, but in the case of hæmophilia he had not been able to raise the prothrombin factor enough to obtain success. He usually depended upon rest and local treatment. Hæmophiliacs usually bled up to a certain point and then stopped. If the blood were examined at once (and it was very difficult to get a sample at this time), the factors were practically in the normal condition. The whole factor in coagulation was the balance between pro- and anti-thrombin.

Agminated Molluscum contagiosum.—Dr. J. L. Bunch showed a boy, aged 11 years, with thirteen molluscum contagiosum lesions confined to the left axilla. The first had appeared three months previously, and was pink, raised, slightly pedunculated, and about the size of a very small marble. It had a central depression, and was situated just anterior to the posterior axillary fold. The second largest was situated just anterior to it, and was slightly inflamed, probably due to friction. The other eleven lesions varied in size from a pea to a millet-seed, were pinkish or flesh-coloured, and showed more or less marked central depressions. They were scattered throughout the axilla, but some of them tended to form little groups, the largest of which had four lesions. There were no subjective symptoms. Agminated molluscum contagiosum lesions in the axilla were very rare.

SECTION OF LARYNGOLOGY.

December the 7th, 1917.

Teratoid Growth on Hairy Polypus of the Nasopharynx.—Dr. A. Brown Kelly.—A female infant, aged 6 weeks, was brought to hospital on account of the frequent protrusion from the mouth of a long tongue-like growth, which had to be pushed in again by the mother. The growth was first noticed when the baby was a week old, and had since been getting bigger and more troublesome. On examination, the elongated growth was found to hang behind the tongue by a fine pedicle coming from the left side of the nasopharnx; the exact site of origin could not be determined. On being drawn out of the mouth it projected ¾ in. beyond the lips. The pedicle was severed as high as possible with a fine snare.

The growth on removal had an elongated clubbed shape. It was slightly over 2 in. in length and ½ in. across at its thickest lower part. It was of fleshy consistence, and was covered with skin furnished with numerous fine hairs. Microscopical examination showed an external layer of stratified squamous epithelium four to five cells deep, with in-dippings of a few hair follicles. The underlying connective-tissue was of a loose rudimentary character with two or three minute glands. The central and larger portion of the polypus was composed of tissue closely resembling fat.

Case of Multiple Papillomata of the Larynx in a Child: Tracheotomy and Removal under Suspension Laryngoscopy.—Dr Dundas Grant.—A boy, aged 4 years, was sent to hospital in June, 1917, on account of the impossibility of removing a tracheotomy tube which had been inserted two months previously on account of difficulty in breathing, such as to threaten his life. On laryngoscopic examination, the larynx was seen to be occupied by several papillomata. Under suspension laryngoscopy a large number of small papillomata, about the size of small split-peas, were removed. His adenoids were subsequently removed. On July the 4th, owing to the high position of the former tracheotomy, which involved the cricoid cartilage, a fresh opening was made, about 1 in. lower down, and the same tube as before was inserted. Suspension laryngoscopy now showed complete absence of papillomata. The voice soon returned; he was able to breathe without the tracheotomy tube, and he was sent home.

Two months later his difficulty in breathing returned, and the tracheotomy tube had to be re-introduced. Dr. Dundas Grant found a papilloma attached to the left vocal cord, though there was a fair amount of breathing space in the larynx. The papilloma was removed by direct laryngoscopy, and the tonsils, which were extremely large and buried, were enucleated.

He could now breathe through the larynx, and his voice was good, but the retention of the tracheotomy tube during the winter months was advisable in the expectation that in the interval the tendency to regeneration of papillomata might disappear, owing to the beneficial effect of tracheotomy, even without removal, in cases of papillomata of the larynx.

Multiple Papillomata of Larynx removed by Operation (Suspension Method) after Tracheotomy; Death five weeks later from Acute Membranous Tracheitis and Bronchitis.—Mr. HUNTER TOD (*v.* p. 220).

Case of Foreign Body (Collar Stud) in Left Bronchus of a Child, producing Collapse of Lung of a Year's Duration.—Dr. DUNDAS GRANT.—A boy, aged 9 years, was taken ill suddenly on December the 6th, 1916, with vomiting, pain in the left side of the chest and cough, which soon subsided. He was ill in bed for weeks, and then went away for five weeks. In August, 1917, he was admitted to hospital, when it was found that the right lung extended to the left parasternal line, and that there were physical signs of supplemental breath sounds, with no crepitations; the left side was flat and contracted, the lung collapsed, and the stomach elevated. von Pirquet's test was negative. He complained of pain in the left basal region; there was cough and expectoration; the leucocytes were 9000. X-ray examination on the left side showed general diffuse opacity, obscuring the heart and diaphragm, the latter being made out with difficulty, and appearing to be raised (stomach translucency was higher than normal); the heart was withdrawn to the left; there was no evidence of effusion but of general pleural thickening.

Another skiagram, on October the 1st, showed at the level of the left bronchus a shadow of characteristic shape suggesting the appearance of a collar stud at the spot where an indistinct shadow had been previously noted.

On October the 17th an attempt was made with suspension laryngoscopy to introduce a tube through the larynx, but a large tube would not pass. A high tracheotomy was, therefore, performed, and the trachea down to the bronchi was painted with 20 per cent. cocaine, and a bevelled-ended bronchoscope, 8 mm. in diameter, was then introduced for a distance of 4½ in., when the foreign body was detected, seized with Killian's forceps, and drawn out with a bronchoscope tube. A good deal of mucus escaped. A Durham's tracheotomy tube was introduced, as the attempt at translaryngeal bronchoscopy had caused œdema of the larynx. The tube was removed in two days. The patient rapidly improved, but expansion of the lung would be slow, and he was, therefore, learning suitable breathing exercises.

Endothelioma of the Post-nasal Space.—Dr. W. H. JEWELL.—A girl, aged 13 years, first noticed something amiss four months ago on account of speaking through her nose; she had had enlarged glands in the neck for three months, and intermittent earache and headache for two months. The growth was attached to the left lateral and posterior wall of the nasopharynx, bulging the soft palate forward; it was fairly firm, extended as high as the left choana, and bled readily on digital examination. The lymphatic glands of the left side of the neck were enlarged, and extended nearly as low as the clavicle; in places they were firm and discrete.

Shortly after the child had been shown she developed cerebral vomiting, followed by blindness first of the left eye, then of the right, and ending in coma and death two months later.

Abstracts from Current Literature.

Acute Infectious Diseases.

The quantitative relationship of milk-borne infection in the transmission of human communicable diseases (*'Journn. Amer. Med. Assoc.,'* 1916, LXVII, *p.* 1997).—**E. R. Kelley**, after an investigation of 76,596 cases of diphtheria, typhoid, and scarlet fevers, and septic sore throat which occurred in Massachusetts during the five years 1910–14 comes to the conclusion that the transmission of diphtheria by milk is so rare an occurrence as to be negligible. Thus, of 31,866 cases of that disease only 11 were due to milk, and in 49 milk was the probable, though not the proved, source of infection. In scarlet fever the number of cases due to milk is higher, though the percentage is small. Of 31,012 cases 495 were proved to be and 57 were suspected of being milk-borne. In typhoid fever the number was 5 per cent. as contrasted with the 10 to 25 per cent. as given in recent public health literature; of 11,282 cases, milk was the source of infection in 553 and suspected in 135. Of milk-borne diseases septic sore throat is the chief, but its occurrence is relatively rare. When it does occur, it is nearly always in epidemic form and of serious import. The number of such cases was 2436, and of these 1914 were due to milk. T. R. WHIPHAM.

Infectious diseases in relation to child welfare (*'Edin. Med. Journ.,'* 1917, I, *p.* 389).—**Claude B. Ker** points out that in discussing the influence of the infectious diseases upon child welfare the main points to be considered are the mortality for which they are responsible and the sequelæ which follow in their train. Special reference is made to scarlet fever, diphtheria, measles, and whooping-cough, particularly the last two mentioned, which are regarded by the public as trivial. Research as regards these two diseases should be encouraged. Attention is drawn to the fact that in Edinburgh a certain amount of isolation accommodation for measles and whooping-cough has been provided, by which means many lives have been saved and dangerous sequelæ have been prevented. J. ALLAN.

Vaccinotherapy in acute infectious diseases of children (*'La Pediatria,'* 1917, xxv, *pp.* 532–602, and 660).—**P. Ceppellini** reports cases dealing with staphylococcal, streptococcal, pneumococcal, gonococcal, meningococcal, typhoid, and whooping-cough infection. He states that this method while achieving successes either hardly flattering or strikingly brilliant, and failures either relative or absolute, has nevertheless fulfilled the elementary principle of therapeutics, *primum ne noceat*, when skilfully used. The failures are not dependent on age; children tolerated, better than adults, the inoculations because in them the negative phase is neither marked or prolonged and sometimes hardly perceptible, as investigations by the author or the opsonic index have proved. Successes depend on the possibility of stimulating, in the infected organism, the formation of the most specific substances against the infecting germs. If exception is made of the streptococcus, *Bacillus coli*, meningoccocus and bacilli belonging to that group which has its own peculiar production of specific antibodies—hence necessitating an auto-vaccine—for the large majority of organisms (*B. typhosus*, gonococcus, diplococcus, staphylococcus, cholera vibrio, etc.), the various strains are similar, producing antibodies which generally act on the whole species. Hence in these cases a stock vaccine may be resorted to in the first instance and replaced by an auto-vaccine as soon as it can be prepared, usually in not more than five days. *Staphylococcic infection:* Out of more than sixty cases treated by the author, there were no failures, the beneficial effect was evident and a stock vaccine was as efficacious as an auto-vaccine. *Streptococcic infection:* Only seventeen were treated, the effect was generally good, especially in erysipelas. In cases of enterocolitis with streptococcus obtained from the fæces the effect was *nil*, probably due to a polymicrobic ætiology. *Pneumococcic infection:* In twenty-five cases the result was good, in some wonderful, especially where resolution of the pneumonic foci was delayed. *Typhoid infection:* In two cases, apart from the lowering of temperature, there was a marked sense of comfort produced. Stock vaccine acts equally well as autogenous. *Gonococcic infection:* In ophthalmia the results were negative. In 125 cases of arthritis, however, they were favourable, while in 271 cases of vulvo-vaginitis only seven were unfavourable. *Meningococcic infection:* Only autogenous vaccines were used and the results were indefinite as a whole. *B. coli infection:* The data furnished by the author's cases were indecisive. *Bordet-Gengou infection:* In 385 treated, 213 were favourable, 142 failures, and 30 doubtful.

VINCENT DICKINSON.

Diphtheria in New York State (*'New York State Med. Journ.,'* 1918, XVIII, *p.* 177).—**F. M. Meader**, from a study of diphtheria in New York State, finds that (1) the disease is about as generally prevalent now as it ever has been, but that the deaths have been rapidly reduced on account of the use of diphtheria antitoxin; (2) the disease is more prevalent in cities than in rural areas; (3) the disease is most prevalent among children of school age; (4) the control of diphtheria carriers is one of the most important measures that can be prepared to reduce the general prevalence of this disease; (5) in view of the fact that organisms disappear from the throats of diphtheria patients, for the most part between the tenth and the fifteenth day of the disease, it would simplify to a considerable extent our laboratory work if the first day on which the first culture for termination was taken was on the tenth day of the disease; (6) the use of the Schick test is of value in determining those who should be immunised in the presence of an outbreak and the toxin antitoxin treatment promises a method of treating non-immune children so that active immunity develops against this disease.

J. ALLAN.

On nasal diphtheria (*'Die Therapie d. Gegenwart,'* 1917, XIX, *p.* 250).—**G. A. Waetzoldt.**—Of 1000 cases of diphtheria treated at the Moabit Hospital in Berlin between October, 1915, and March, 1917, one-third showed involvement of the nose. There were twenty-four cases of isolated nasal diphtheria in infants. The duration of the bacilli in the nose varied considerably; only the minority of the cases became free of bacilli under two months. Twelve cases of nasal diphtheria in infants were associated with simultaneous involvement of the throat, which generally consisted in the presence of bacilli only, and was rarely manifested by actual membrane. Waetzoldt recommends that, owing to the frequency of isolated nasal diphtheria in infancy and childhood, a culture of the nose and throat should be taken in the case of every nasal discharge which lasts longer than a week, and should be repeated if the first culture is negative. Unilateral nasal discharge should particularly rouse suspicion.

J. D. ROLLESTON.

Subcutaneous emphysema in diphtheria (‘*Arch. de méd. des enf.*,’ 1917, xx, *p.* 360).—**Mlle. le Soudier** records a fatal case in a boy, aged 3 years, who was intubated for laryngeal diphtheria. The operation was difficult, and the tube had to be removed the following morning when subcutaneous emphysema of the suprasternal fossa was observed. The emphysema extended during the day to the whole of the lower cervical region, and the next day down to the iliac crest. Death took place the same day. In addition to vesicular and interstitial emphysema, an area of broncho-pneumonia was found at the base of each lung. There was no ulceration of the larynx. Only two other cases of surgical emphysema following intubation are on record, both of which recovered. As is the rule in surgical emphysema, the prognosis depends on the pulmonary lesions.

J. D. Rolleston.

Early signs of post-diphtheritic paralysis (‘*Münch. Med. Woch.*,’ 1918, lxv, *p.* 669).—**T. Gott.**—A very frequent but unknown sign of diphtheritic paralysis is the facial or Chvostek’s phenomenon. If a child suffering from diphtheritic paralysis has the middle of the cheek struck with the percussion hammer, in many cases a rapid twitching occurs, either in the region of the upper lip or in the alæ nasi, eyelids, and root of the nose. This sign is one of the earliest to appear in diphtheritic paralysis. Another early sign is increased activity of the knee-jerk. Chvostek’s phenomenon and increased knee-jerk may be present in the beginning of convalescence from diphtheria before there is any suggestion of paralysis. In the majority of cases Chvostek’s sign vanishes entirely, and the knee-jerks become normal again without any palatal or ocular paralysis occurring. But children who show the facial phenomenon and increased knee-jerks after diphtheria are much more likely to develop paralysis than those in whom this symptom is absent The practical significance of these observations is that by continual examination of the facial phenomenon and the knee-jerks from the beginning of convalescence it may be possible to detect those predisposed to paralysis. Although the paralysis cannot be entirely prevented, further damage to the nervous system can be checked by keeping the patients at rest in bed. J. D. Rolleston.

On intestinal phenomena in the serum disease (‘*Deutsch. Arch. f. klin. Med.*,’ 1918, cxxv, *p.* 51).—**H. Widmer.**—Out of 50 cases of serum disease occurring after intra-gluteal injection of antitoxin for diphtheria 36 cases showed well-marked intestinal phenomena, which are classified as follows: 1. Simple enteritis (26 cases). 2. Membranous enteritis: (*a*) With many eosinophil leucocytes (7 cases). (*b*) Without eosinophils (2 cases). (*c*) Hæmorrhagic enteritis (1 case). The diarrhœa, in most of the cases, lasted from six to twenty days, occurred as a rule before the other symptoms of the serum disease, and subsided with them or outlasetd them by a few days. Widmer concludes that there is a certain connection between anaphylaxis or anaphylactic enteritis in the dog and the serum disease as shown by the eosinophilia in the stools in both conditions.

J. D Rolleston.

A case of serum anti-anaphylaxis (‘*Med. Klinik.*,’ 1917, xiii, *p.* 1119).—**G. Nachmann.**—A girl, aged 12 years, was admitted to hospital with severe faucial and laryngeal diphtheria. Tracheotomy was performed, and injections of 10,000 units intramuscularly and 6000 units intravenously were given. Ciliary palsy developed in three weeks' time, and, as the paralysis seemed likely to extend, it was decided to inject some more large doses. To avoid anaphylactic shock, the whole of the intended dose (6000 units) was not given, but only the sixth part (*i.e.* 1 c.c.) intramuscularly. Collapse at once occurred, which disappeared in a few minutes after administration of caffeine and camphor. Four hours later the remaining 5 c.c. were given without any general reaction. Two days later another 6000 units were given without any reaction. Similarly, a third, fourth, and fifth injection of 6000 units provoked no reaction. Recovery took place. It is probable that if the child had received the whole dose at the time of the first injection the reaction would have been much more severe and even fatal. J. D. Rolleston.

On the treatment of diphtheria with ordinary horse serum (*'Deutsch. Arch. f. klin. Med.,'* 1918, cxxv, *p.* 284).—**A. Bingel**, in the course of four years, treated 471 cases of diphtheria with antitoxin and 466 with ordinary horse serum without any difference in the results. In some cases, indeed, the results obtained with the ordinary serum were better. Thus, in uncomplicated cases the throat became clean sooner and the bacilli disappeared from the throat more rapidly, so that the duration of treatment was shorter. Further, with ordinary serum treatment the cases of toxæmia, myocarditis, and nephritis were less, and paralysis was less severe. These differences, however, were so small that they might be regarded as a mere coincidence, but they were sufficient to show that no superiority could be attributed to diphtheria antitoxin. Bingel concludes that the success of serum therapy in diphtheria cannot be attributed to the antitoxin content of the serum, and suggests that the large doses used at present and at the beginning of the antitoxin era are responsible for the good results obtained. J. D. Rolleston.

The complications of scarlatina (*Dublin Journ. Med. Science*, 1918, I, *p.* 12).—**W. S. Boyd** discusses how the different complications affect the individual patient and the part they play in Fever Hospital Administration. He deals with arthritis or scarlatinal rheumatism, nephritis, otitis media, adenitis, rhinitis, heart complications, alimentary complications, and post-scarlatinal diphtheria. He refers to the question of "return cases," and makes the following suggestions to reduce these cases to their lowest limits: (1) Complicated cases should, as far as possible, be isolated from simple cases as soon as the complications appear, especially those accompanied by discharges affecting the nose, throat, and ears. This isolation is not always possible, as, except in up-to-date hospitals, the want of small isolation wards is badly felt. The greatest precautions should be taken by everyone, lest discharges should be conveyed from one patient to another. (2) If it is the routine to discharge patients at six weeks, or any definite time, then a week before that time the patients due for discharge should undergo a thorough examination in bed from head to foot by the medical officer, special attention being paid to the nasal septum and similar places, where a small scab may remain unnoticed till looked for If any possible source of infection is found, special care for a week may make it safe, and at the examination on discharging day it will not then be found necessary to detain the patient longer. (This is not to be taken that the examination of the patient is unnecessary at other times, but in a busy fever hospital it is impossible to examine minutely all the patients each day.) (3) The provision of a convalescent ward apart from the hospital buildings, where the patients can be sent for a week prior to discharge. While here they should be allowed out in the open, and any trace of discharges looked for; if such appear, they should be isolated till they recover, but not sent back to hospital. (4) The usual hot, disinfecting bath should be given at the time when the patient leaves the ward for the convalescent department. If such a department is not available, then the bath should be given some hours previous to the patient going home, and a room should be provided to spend this time in to prevent waiting near the wards or in draughty halls. A hot bath immediately before going out is very likely to cause a cold with all its results. (5) Instructions to parents as to the care of the child, and especially to be on the watch for running of the ear or nose. Medical advice should be sought immediately if such occurs, and in the case of the ear a plug of cotton-wool should be inserted until advice is obtained. J. Allan.

The cultivation of a micrococcus from blood in measles ('*Journn. Amer. Med. Assoc.*,' 1917, LXVIII, *p.* 1028).—**Ruth Tunnicliff,** after an investigation of fifty cases of measles, has found a diplococcus in the blood during the pre-eruptive and eruptive stages of the disease. It is present alone and in large numbers before the appearance of the eruption and alone also in a large proportion of cases at the height of the infection. It was also found at the same time in the throat, nose, and eyes.

T. R. Whipham.

Morbidity and mortality of pertussis and measles, with particular reference to age ('*Arch. of Ped.*,' 1917, XXXIV, *p.* 321).—**B. S. Veeder**.—The yearly death-rate from pertussis and measles for the decennium 1904–1913 for the United States Registration Area was, on the average, between 9000 and 10,000. While the death-rate as a whole, and for certain diseases as tuberculosis, diphtheria, diarrhœa, and enteritis under two years, and typhoid fever shows a decrease in the past fifteen years, that for measles and pertussis has remained practically the same. Nearly 80 per cent. of the pertussis and half the measles deaths occur in infants. The older the child the lower the case fatality rate. J. D. Rolleston.

Observations on measles ('*Arch. of Ped.*,' 1918, XXXIV, *p.* 38).—**C. Herrman** states that infants under 2 months of age are absolutely immune. The immunity is not conveyed through the breast-milk, as artificially fed infants are also immune, but probably through the placental circulation. The immunity gradually becomes less absolute, so that at 8 months it is apparently entirely lost. When infants between 3 and 5 months of age are exposed to infection and do not contract the disease, they are frequently not infected when exposed to measles later in life. The contact must be intimate and the accidental inoculation must have taken place after the third month, because before that time immunity being absolute, there is no reaction and no immunity is conferred.

J. D. Rolleston.

Swelling of the plica semilunaris as a prodromal symptom of measles ('*Berl. klin. Woch.*,' 1918, LV, *p.* 402).—**E. Meyer.**—In the prodromal stage of measles, in contrast with other infectious diseases associated with conjunctivitis, the cresentic or sickle-shaped fold of skin known as the plica semilunaris which connects the two lids at the internal canthus, shows a maximum of inflammatory injection and swelling, and small white specks resembling Koplik's spots, while the adjacent caruncle shows relatively slight involvement. This swelling of the plica possesses diagnostic value, as it appears, as a rule, before Koplik's spots. It subsides, as a rule, on appearance of the measles eruption. J. D. Rolleston.

Thrombophlebitis of the inferior vena cava complicating varicella ('*New York Med. Journ.*,' 1918, cvii, *p.* 355) —**S. A. Blauner**.—A boy, aged 11 years, seventeen days after a mild attack of varicella complained of severe pain in the left hip, radiating down the left thigh, and the following day had excruciating pain in the left lower abdomen just above the inner half of Poupart's ligament, the skin of which became pale and glazed. In the afternoon of the same day similar pain occurred on the right side of the abdomen, followed in the evening by pain and swelling of the whole of the right lower extremity, and next morning by similar involvement of the entire left lower limb. When seen by Blauner in the evening of the third day, both legs, especially the left, and the feet were swollen. Both saphenæ stood out prominently, the abdomen was rigid and tender on pressure. The superficial veins of the abdomen were prominent and remained so nearly five months after the boy's discharge from hospital. From the abdomen the visible veins ascended to both sides of the chest, terminating a little above the nipples. Examination of the urine was negative. The liver was 2½ in. below the costal border, the spleen was not palpable. The temperature ranged from 100° to 104° F. There was no history of trauma nor of typhoid, measles, or pertussis in early childhood. J. D. Rolleston.

Prophylactic vaccination against chicken-pox ('*Arch. of Ped.*,' 1917, xxxiv, *p.* 702).—**M. Michael** was induced by Rabinoff's results (*v.* British Journal of Children's Diseases, 1917, xiv, p. 71) to repeat the same experiment in a large institution in Chicago: 32 children exposed to chicken-pox received prophylactic vaccination; 7 developed the disease—6 between thirteen and sixteen days after vaccination, and in 1 the date was not known; 8 developed lesions at the vaccination site between the tenth and fourteenth day, and 4 of them developed chicken-pox. The inoculation seemed to take place more readily in young children, for the positive results were invariable in children under 5 years of age. The incubation period of thirteen to sixteen days in cases with a general eruption was shorter than the usual period, which is from sixteen to twenty-one days.

J. D. Rolleston.

The effect of vaccinia on the well-being of children ('*Lancet*,' 1917, i, *p.* 993.—**J. P. Kinloch** carefully analysed 3804 cases of infectious diseases, of which 3058 were vaccinated and 746 unvaccinated, and finds that there is shown repeatedly an increase in the incidence of disease complications and death among the unvaccinated. The figures submitted afford no evidence that vaccinia has a prejudicial effect on the child's future well-being as judged by its response to subsequent infection. J. Allan.

Injection of lymph as a protection against smallpox ('*Indian Med. Gaz.*,' 1918, liii, *p.* 140).—**C. F. Fearnside** and **S. G. Poi** think that one of the chief causes of the unsatisfactory vaccination results in the Coimbra district is the mothers' dislike to have their children vaccinated and their practice of wiping away the lymph immediately after scarification.

To remedy this they inject the lymph hypodermically, squeezing it from a leaden vaccine tube through an ordinary hypodermic needle which has been soldered to the cap of the tube. Four insertions are made. The usual focal reaction follows, but no superficial vesiculation except when the needle has scratched the surface of the skin. To prove that the method was successful the writers vaccinated twelve persons by the ordinary method who had been injected, and the result was negative in all.

J. D. Rolleston.

Typhoid fever in children (*'New York State Journ. Med.,'* 1917, xvii, *p.* 110).—**J. C. Sincerbeaux** emphasises the importance of milk supply and refers to points of difference in this disease in adults and children. In order to lessen the chances of cases and carriers of typhoid fever and to control them once they are known, the following are among the means that may be employed: (1) Cleanliness in milk production; (2) vaccination of dairy employees against typhoid fever; (3) official supervision of dairies during the presence of illness; (4) isolation of infected persons; (5) official supervision of the pasteurisation of all milk. J. Allan.

A case of oto-typhoid (*'Munch. Med. Woch.,'* 1918, lxv., *p.* 186).—**O. Fleischmann.**—A boy, aged 11 years, fell ill with catarrhal sore throat, and fever. Right otitis media developed at the same time, spontaneous perforation of the tympanic membrane ensued, and a mastoid abscess occurred. Antrotomy was performed, and rapid recovery took place. Examination of the pus from the mastoid abscess showed typhoid bacilli and a much smaller growth of streptococcus brevis. No other signs of typhoid fever were present. The stools were normal, and contained no typhoid bacilli. Widal reaction, however, was positive in 1:160. No previous case has been recorded of exclusive localisation of typhoid infection in the ear.

J. D. Rolleston.

Cancrum oris following paratyphoid B infection (*'Riforma Medica,'* 1918, xxxiv, *p.* 248).—**E. Romanelli** records a case of cancrum oris in a boy, aged 12 years, which developed at the end of the first week of paratyphoid B fever. Bacteriological examination showed a large number of spirochætes, micrococci, and fusiform bacilli. Death took place in spite of intravenous injections and local applications of arseno-benzol. Nothing of special interest was found at the necropsy. J. D. Rolleston.

Typhus fever in children (*'Deutsch. Med. Woch.,'* 1918, xliv, *p.* 156).—**E. Martini** saw a large number of children, aged from infancy to 15 years, in a fever hospital in Russian Poland. In children the disease runs a much milder course than in adult life. The fever lasted a shorter time, and no complications or deaths occurred. The mild character of the disease constitutes a great danger for the community, as its nature is readily overlooked, and sick children are allowed to associate with healthy persons. The immunity confined by an attack of typhus is of much shorter duration than that following measles (*cf.* British Journal of Children's Diseases, 1913, x, *p.* 373. J. D. Rolleston.

Cerebro-spinal meningitis (*'La Pediatria,'* 1917, xxv, *p.* 257).—**F. Randone** analyses twenty-two cases occurring during the epidemic at Syracuse. There were several cases with repeated relapses ending in complete recovery. The onset for the most part was typical, in two cases

Kernig's sign was absent, and in one of them no other manifestation but a slight convulsion. Herpes of the face was present in about 50 per cent. The meningococcus was present in the cerebro-spinal fluid in every case, in the nasopharynx in two cases only, and invariably absent in suspected carriers. The mortality was 36·75 per cent. The treatment adopted was intraspinal serotherapy, and there were no phenomena of anaphylaxis.

VINCENT DICKINSON.

Cerebro-spinal spotted fever (*'Dublin Journ. Med. Science,'* 1917, II, *p.* 27).—**D. Hennessy** reports the case in an infant, aged 10 months. When first seen, the infant looked very ill, the temperature was 102° F., pulse 110; it had an attack of diarrhœa, going on for two or three days previously; there were no nervous symptoms, either motor or sensory. There was nothing to suggest what the illness might be, except purpuric spots—patches irregular in shape, largest on the buttocks, but distributed all over the body; a few on the face and scalp, skin not raised, and no paling on pressure. Next day slight opisthotonos noted and Kernig's sign present; lumbar puncture performed and half-ounce turbulent fluid drawn off; throat swabbed. Numerous meningococci were found in spinal fluid; swab negative. The infant had four injections of serum—one intraspinal and three hypodermically—but died on the eighth day after first coming under observation. There were no convulsions at any time. J. ALLAN.

Notes on the outbreak of cerebro-spinal fever at Reading 1915 to 1916 (*'Practitioner,'* 1917, XCVIII, *p.* 436).—**R. Donaldson.**—Of 60 cases, 16 or 26·6 per cent. occurred under the age of ten years, and 15 or 25 per cent. between eleven and twenty years of age. Fourteen cases under twenty years of age died. The greatest number of cases occurred in the month of April. The incubation period varied between three and twelve days; the average duration of illness in fatal cases was 12·2 days. Kernig's sign was present in 95 per cent. of cases. Early and repeated lumbar puncture is of more importance than any other method of treatment. Direct irrigation by flavin of the spinal meninges is suggested. F. R. B. ATKINSON.

Morphological and biological changes in the meningococcus isolated in the epidemic of cerebro-spinal fever in Palermo (*'La Pediatria,'* 1916, XXIV, *p.* 650).—**G. Rutelli** found that on staining by Gram's method strains isolated from forty cases gave negative results except in two instances, but whether these were contamination germs was not possible to decide. With regard to the fermentation of sugars the result was negative with glucose, lactose, and levulose, but there was slight fermentation with maltose. With regard to sera agglutination the author used four kinds, and in all the meningococci were agglutinated and precipitated. With a specific amboceptor using as antigen emulsions of inactivated meningococci there was slight preponderance in favour of serum produced from local strains over others. Their different behaviour suggests the advisability of using a curative serum prepared from strains isolated from cases occurring in the same epidemic. VINCENT DICKINSON.

Serum reactions in cerebro-spinal meningitis (*'La Pediatria,'* 1916, XXIV, *p.* 728).—**B. Romano** found that with regard to the Bordet-Gengou reaction, using the patient's blood serum on cerebro-spinal fluid, suspected of containing specific amboceptor, the results were variable, but generally the reaction was more frequently present in patients who had been ill at least six days. Both fluid and serum contained specific amboceptors, so that the reaction, when positive, had a diagnostic value. With regard to precipitins and agglutinins in the serum, he found the former frequently absent while the latter were always present in a more or less marked degree. For diagnostic purposes the reaction is of little importance for two reasons: (1) Because it appears late, and, therefore, does not aid diagnosis in doubtful cases; and (2) because agglutination requires strains of meningococcus which are easily agglutinable, and these are difficult to obtain. The reaction of Vincent and Bellot is of equal importance to that of deviation of the complement, but appears earlier and may be positive even on the first day of the disease. Cases cured by serum therapy did not present any difference in the reactions from those still in progress. This may signify that the process of cure takes place by means of mechanisms which are little known, and most probably by means of a more active phagocytosis. VINCENT DICKINSON.

The prophylaxis and treatment of cerebro-spinal meningitis (*'La Pediatria,'* 1917, xxv, *p.* 65).—**E. Carapelle** found that in the epidemic in Palermo, during the first period of the disease when the cases were treated with the serum supplied by the municipality, the mortality was 52·1 per cent.; during the second period, when, in the absence of serum, lumbar puncture was the only therapeutic measure obtainable, the mortality was 52 per cent., during the third period with the employment of serum from abroad it was 33 per cent., and during the fourth period with serum made in Palermo it was 16 per cent. With regard to prophylactic measures, a systematic search for carriers gave uniformly negative results, and disinfection was limited to personal clothing, beds, and floors with 5–10 per cent. solution of lysoform and 1–2 per cent. sublimate.

VINCENT DICKINSON.

Bacteriological researches in whooping-cough (*'Riv. di Clin. Pediat.,'* 1916, xiv, *p* 467).—**R. Porcelli** has made a series of observations relative to the presence and serology of the Bordet-Gengou bacillus and the bacillus Z of Manicatide in whooping-cough. The results authorise him to assert that the serum of animals immunised with Bordet-Gengou bacillus does not contain partial agglutinins for bacillus Z, and *vice versâ* the serum of animals injected with bacillus Z does not agglutinate the Bordet-Gengou bacillus. Bacterioscopic examination of the secretion in whooping-cough shows the constant presence of short, ovoid, vacuolated bacilli, which, however are present in the sputum of those not suffering from the disease. In cases of whooping-cough the author isolated the Bordet-Gengou bacillus by cultures, and only in a single instance was it associated with a micro-organism having characteristics identical with the bacillus Z of Manicatide. He found that the best culture medium was agar, potato, rabbit's blood, which ought to have a neutral or slightly alkaline reaction. With such a culture medium, in twenty-four to thirty-six hours after inoculation with the sputum, characteristic colonies of the bacillus of Bordet-Gengou appear, and this affords a very valuable method of diagnosis. His further researches showed that the blood serum of patients suffering from pertussis agglutinated the Bordet-Gengou bacillus while it did not agglutinate the bacillus Z. The reaction of complement fixation gave similar results.

VINCENT DICKINSON.

Vaccine in the prevention of whooping-cough (*'Amer. Journ. Dis. Child.,'* 1918, xv, *p.* 271).—**F. V. Bogert** inoculated 31 children who had been exposed to whooping-cough with 50,000,000 stock pertussis vaccine. Only one of them had previously had the disease. No reactions were noted, and not a single case developed the disease. J. D. Rolleston.

Mumps meningitis (*'Journ. Amer. Med. Assoc.,'* 1918, lxx, *p.* 1448).—**J. Kaunitz.**—During some epidemics of mumps there seem to be more meningeal complications than in others. As most patients recover after a few days' illness, the meningeal condition is very probably lost sight of, particularly in the milder cases. The condition is due to a sero-fibrinous meningitis, in some cases invading the brain tissue and nerves at the base of the brain. The symptoms and signs resemble those of tuberculous meningitis. The course, however, is very different. Most patients recover, though, in some cases, temporary neuritis has occurred. Atrophy of the auditory and optic nerves and hemiplegia may take place. The gravest forms are those in which the substance of the medulla or the vagus nerves are affected. Kaunitz records three cases in children, aged 4, 5, and 9 years respectively. Two of them were relatively mild, and might have been mistaken for gastro-intestinal attacks; in the other case there was no doubt of the diagnosis from the start, and the patient's life was probably saved by lumbar puncture, which was not indicated in the other two cases.

J. D. Rolleston.

Some aspects of malaria in children (*'Interstate Med. Journ.,'* 1917, xxiv, *p.* 545).—**W. H. Deaderick** states that children are more frequently and more severely affected with malaria than adults. They are prone to pernicious attacks, especially of the cerebral type. At least 50 per cent. of the cases of pernicious malaria in ordinary practice occur in children under ten years of age. The convulsive type is relatively frequent in children living in highly malarial countries, and is more apt to attack children with nervous predisposition, either hereditary or acquired. This form is relatively rare in adults. The type of fever is most often quotidian, sometimes tertian or double-quotidian, rarely quartan. The paroxysm occurs more often during the night than is the case with adults, the fever being often detected for the first time in the morning. The first stage is rarely typical, the rigor being replaced by coldness of the extremities, pallor, slight cyanosis, especially of the lips and nails, vomiting, drowsiness, and sometimes convulsions. During the second stage the fever is often higher than in adults. Gastro-intestinal symptoms, particularly vomiting and diarrhœa, are common. Thirst is intense. The most common complaints are pain in the head and epigastric region. Enlargement of the spleen is more constant than in adults. Torticollis and erythema may be noted. Atypical forms and dangerous symptoms, especially on the part of the nervous and gastro-intestinal systems are frequent. Œdema, ascites, and purpura are not uncommon. T. R. Whipham.

An unusual case of cerebral malaria (*'Journ. Amer. Med. Assoc.,'* 1917, lxviii, *p.* 106).—**O. T. Brosius** reports the case of a girl, aged 11 years, who two days previously was taken ill with malaise, headache, and chills with continued high fever. The following day she had two convulsions and right hemiplegia developed. A blood examination showed the presence of crescents and many ring forms chiefly of the æstivo-autumnal parasite, though a few showed tertian characteristics. Quinine was administered, and on the fourth day, the temperature fell to normal, and the paralysis disappeared, though the affected limbs were weak. The patient eventually made a perfect recovery. T. R. WHIPHAM.

On the presence of leucotoxins in the blood of patients suffering from leishmaniosis interna (*'La Pediatria,'* 1917, xxv, *p.* 80).—**S. Maggiore** found that a leucolysin having special physical properties was present in the blood in this disease. This leucolysin does not act in the same way as the hæmolysin obtained artificially by the repeated inoculation of washed red corpuscles of animals of a different species, but acts without the mediation of complement since the blood serum containing the inactivated leucotoxin with the addition of complement does not give rise to the phenomenon. The presence of this leucolysin renders more intelligible the pathology of the leucopenia which is not infrequently observed at the beginning of the illness. VINCENT DICKINSON.

A case of hydrophobia: Attempted specific medication (*'Med. Record,'* 1917, xcii, *p.* 768).—**O. Berghausen.**—A boy, aged 5 years, was admitted to hospital on June 28th for spasms of the throat on attempted drinking of water, which had developed on the previous day. Both he and the uncle had been bitten by the same rabid dog six weeks previously. The wounds were cauterised five minutes after the bite. Pasteur inoculations were instituted within forty-eight hours. The uncle received twenty-one inoculations and the child twenty-four. On June 29th the child became delirious and had several convulsions; 18 c.c. of blood serum from the uncle, who had shown no symptoms, was injected into the child's spinal canal. Death took place the following day. No autopsy. J. D. ROLLESTON.

Fatal hæmorrhagic dengue (*'Med. Journ. Austral,'* 1917, i, *p.* 7).— —**J. A. Goldsmid** reports two cases in children aged 3 and 5 years respectively. The boy of three died, and the girl recovered.
F. R. B. ATKINSON.

Reviews.

DREAM PSYCHOLOGY. By MAURICE NICOLL, B.A., M.B., B.C.Cantab., Capt. (Temp.), R.A.M.C. Oxford Medical Publications. London: Henry Frowde and Hodder & Stoughton. Pp. 194. Price 6s.

THE writings of Freud and of the Viennese psychologists generally have long been available to English readers, but in this country the great differences between the teachings of the schools of Vienna and Zurich have not been sufficiently recognised. In the exposition of the doctrines of Jung now before us, workers in every branch of sociology, psychology, medicine, and religion, will find much of interest; to those working at the fascinating problems raised by the neuroses of war especially we commend it. Dr. Nicoll is one of the very few Englishmen who have had the advantage of working abroad both under Freud and under Jung. To both these masters the dream has a great psychological value. Jung believes that each individual in his development evolves mentally in a manner largely determined by the evolution of his race. Just as our bodies reveal in their structure evidence of the manner in which we evolved, so our "mental make-up" shows evidence of the previous stages through which the human mind has evolved. To Jung the conception of a "collective psyche," as he terms it, is a fundamental one. At any moment each one of us is the product of the happenings of his forbears and of the reactions which he himself individually, since he came into being, has made to his environment. A study of both these aspects of a person is necessary in all attempts at evaluating the various factors in his present-day adaptations, or lack of adaptations, to his environment. In general, it may be stated that when we are actively employed in doing things, the historical events of the past remain below our conscious surface, but during states of relative inactivity, from our mental background, our unconscious, evidence of the impress and fixation of eretime happenings can be gleaned One of the most important methods by which this evidence can be obtained is through the dreams of the individual. According to our author dreams usually are symbolical representations of events and incidents, or cartoons. Before any symbol or cartoon can appeal to us, both the symbol itself and the events which are symbolised must be known. By the Freudian school of thinkers these symbolic representations are regarded as evidence of past activities as applied to present-day problems, but to Jung and Nicoll "coming events cast their shadows before," and as a consequence dreams have also a bearing upon the progressive evolution of the individual. The conception of regression or "drawing back of a person into himself before he launches on to new adaptations" is here also, for the first time adequately expressed in English; this conception strikes back to the root of some of the great principles which underlie the development of those manifestations which we all know as symptoms in cases of functional nervous disorders. Both the hysterical and the psychasthenic types shrink away from reality; the hysteric does this to a large extent on the side of his soma, whilst the viscera of the psycho-neurasthenic tend to loom too largely upon his consciousness.

The book is divided into nineteen chapters dealing with the psyche, the problem of the neurotic, mental background, dreams and cartoons, interpretation, compensation, over-compensation, under-compensation, fantasy, and rumour, the unconscious motive and interest, the control of interest, the growth of interest, complexes, extroversion, introversion, balance, regression, the nature of the unconscious, and responsibility. It was written whilst the author was on active service in Mesopotamia, and yet bears but little evidence of the difficulties under which he wrote. A list of authors from whom the writer has drawn most heavily, and an index, complete the book. Dr. Nicoll writes with great lucidity and with an easy style, his descriptions are forcible and withal extremely clear. To workers in every branch of life we commend a study of his book. E. G. F.

POLIOMYELITIS IN ALL ITS ASPECTS. By JOHN RUHRÄH, M.D., and ERWIN E. MAYER, M.D. Illustrated with 118 engravings and 2 plates. Lea & Febiger. Philadelphia and New York, 1917. Price $3.25.

THE writers are to be warmly congratulated on the appearance of this volume, which, as the title denotes, forms an exhaustive monograph on poliomyelitis. It should prove a most valuable work of reference to all interested in the subject.

In the opening chapter, which is devoted to the history of the disease, three periods are distinguished: The first, or period of the study of the clinical features, embraces the time from Underwood, who first described the disease in 1784 under the name of "debility of the lower extremities," to Heine's second publication in 1860; the second period, during which the pathological anatomy was chiefly studied, commences in 1863, when von Reinecker and von Recklinghausen described an atrophy and degeneration of the ganglion cells and nerve-fibres of the anterior horns, and closes with the publication of Medin's paper in 1898, when the third period or modern era begins.

A full account is given of the pathology of the disease, illustrated by microphotographs of the changes in the cells and vessels of the anterior horns. In the chapter on the nature of the virus the writers state that it is not always possible to demonstrate the organism, and suggest that there are two factors present in the culture—one invisible, and the other the globular bodies described by Noguchi as the causal organisms. In the chapter on epidemiology the writers trace the growth of the conception of poliomyelitis as an epidemic disease and describe its geographical distribution and frequency. Several charts are inserted to illustrate the New York epidemic of 1916, which was the most extensive epidemic of poliomyelits on record. From June to December there were 13,000 cases with 3300 deaths, a mortality of 25 per cent., which is higher than the rate observed in any of the previous large epidemics.

The authors discuss the classifications given by previous writers and adopt the following ones: (1) Non-paralytic or abortive cases; (2) ataxic cases or those with nystagmus, in which there are changes in Clarke's columns, the cerebellum, or intervertebral ganglia; (3) cortical cases; (4) spinal or subcortical cases, which are subdivided into meningitic, bulbar, bulbo-spinal, polyneuritic, and ascending forms. Numerous striking photographs are inserted to illustrate the various forms of paralysis and deformities.

Three chapters are devoted to the therapeutical aspects of the disease, the first dealing with the medical treatment during the acute, convalescent, and chronic stages respectively, the second with orthopædic appliances, and the third with operative procedures. The writers express a doubt as to the efficacy, or even advisability, of the use of horse serum, or normal human serum, and believe that electricity does nothing that skilful massage will not do. The chapter on orthopædic treatment contains a useful list of the special measurements required and ordinary apparatus for the different deformities. As regards operative treatment, the writers maintain that no operation of any kind should be undertaken until at least two years have elapsed from the onset of the disease and until the patient is at least five years old.

The examination of muscles and muscle training are discussed in an important chapter, in which the action of the various groups of muscles and their nerve supply are described, together with the appropriate tests and exercises. The chapter entitled "Some Anatomical and Physiological Reminders" supplies indispensable data for the intelligent study of the disease.

The concluding chapter contains lists of the epidemics of poliomyelitis in Europe, America, and Australia prior to 1911, and of those occurring in the United States from 1911 to 1916 inclusive.

The book is well printed and illustrated. Such errors as *tâche cérébrale* (pp. 88, 130), "genu valgus" (p. 191), and "tendo-Achilles" (pp. 196, 199, etc.) will doubtless be corrected in the next edition.

J. D. R.

STAFFORDSHIRE COUNTY COUNCIL EDUCATION COMMITTEE: ANNUAL REPORT OF THE SCHOOL MEDICAL OFFICER FOR THE YEAR 1916. Stafford: J. & C. Mort, Ltd.

THE county of Staffordshire possesses 376 schools, a population of 448,827, and a school population of 81,079, 370 of who were half-timers.

During the year a reduction in the staff from eight inspectors to one took place, with the result that only newly entered and delicate children were examined.

A system has been inaugurated whereby the Health Visitor of the County Council and the Local Authorities visit the schools and homes of the children four times in the year.

This seems quite insufficient, especially as the Staffordshire children seem unusually filthy, 31 per cent being so described.

In the county there are 535 or 0·64 per cent. of the school population mentally defective, of whom 111 were idiots or imbeciles.

The School Medical Officer explains to his Committee that the various types and degrees of mental deficiency are due to different parts of the brain being affected. He goes on to describe children who are grossly inattentive, lazy, and bored, and those who are exceedingly clumsy with their hands, but these are not included among the 535. Next come the children incapable of anything but a rudimentary approach to the three R's, very fair at manual work and with infirm judgment. Residential treatment is required for these and for the next group, the members of which cannot learn to read or write, and who are too restless to take any part in school life.

Between these groups are children fair at manual work but of poor scholastic powers, possessing sometimes sound judgment or with varying degrees of instability and impulsiveness. They are capable of performing simple tasks under guidance: they should be treated by special non-literary classes in ordinary schools. Among these are the word-blind and the word-deaf. One-half or two-thirds of the mentally defectives would be better taught in special classes in elementary schools, the remainder being segregated in special institutions or day schools.

In estimating mental deficiency, modified Binet and Simon tests have been used, and a grading of (1) about normal, aged 3; (2) mentally, between 3 and 6 ; (3) or a poor 9, is used instead of the rigid standardisation according to age.

An inquiry concerning malnutrition was undertaken by Dr. Lila Grey and Dr. Lyra Mackenzie among children between the ages of 5 and 6, living in equal proportions in rural and urban communities: 14,322 well-nourished children were compared with 2389 ill-nourished scholars. One inspector found from 10 to 12 per cent., the other 17 per cent. of malnutrition. Boys and girls showed subnormal nutrition in equal proportions. The average height of ill-nourished children is less than the well-nourished, and likewise the average weight, but weight is depressed to a greater extent proportionately than the height. There is a larger proportion of narrow homes, out-working mothers, and personally unclean children among the ill-nourished, but the difference is not striking.

Enlarged tonsils and adenoids have little or no causal influence on nutrition. The preponderance of rickets in the ill-nourished groups is very striking. Anæmia claims considerably more of the ill-nourished. Six times more tuberculosis occurred among the ill-nourished. C. R.

341

THE
BRITISH JOURNAL
OF
CHILDREN'S DISEASES.

Vol. XV. OCTOBER—DECEMBER, 1918. Nos. 178–180.

Original Articles.

RUPTURED AORTIC ANEURYSMS IN CHILDHOOD, WITH THE REPORT OF A CASE.

By E. Bronson, A.B., M.D., and G. A. Sutherland, M.D., F.R.C.P.

Aneurysms are so infrequent in children that it is advisable to place on record each example met with. Such a record is especially desirable when detailed pathological reports are available.

Case History.

Alfred G—, aged 4½ years, was admitted to the Paddington Green Children's Hospital, October the 6th, 1915, complaining of pain in the chest.

Family history.—The father is a soldier, and is healthy. The mother is a sensitive, nervous woman, but in good general health. She has had only the one pregnancy. No specific history in either parent is elicited.

Previous history.—He was a full-time infant, breast-fed for two months, then brought up upon barley-water and milk. He spoke, and cut his teeth early, but he did not walk until three years of age. He has never snuffled, and has had no skin troubles. The unusual shape of his head and ears and the looseness of his joints attracted attention early in infancy. Also, since early infancy there has been a peculiar gurgling in his abdomen, accentuated by lying on his back. His appetite has never been good, and when he has eaten much he has been troubled by pain in the chest and attacks of vomiting. He has been subject also to periods of constipation alternating with diarrhœa. Shortness of breath showed itself as soon as he started to walk, and a thumping action of the heart was noticed after a fright a few weeks before admission to the hospital. At two years of age he was operated upon for inguinal hernia. With the exception of chickenpox, he has had no acute illnesses. Since eleven months of age he has been troubled by an irritative cough, which becomes worse when he lies down. Occasionally he has had short attacks of pain, with panting breathing. Because of shortness of breath he has never been able to run, nor to walk over half-a-mile at a time. Owing to the cough he has always been under a doctor's care, but no mention of heart trouble was made to the mother previous to admission to the hospital.

Condition on admission.—He is a somewhat under-nourished child, walking into hospital, and not acutely ill. Mentally he is old in many ways. He is sensitive and rather silent, but has a quaint method of expressing himself, and a sense of humour of his own. He has no idea of how to play with other children, due possibly to the fact of his being an only child.

Head.—The expression of his face and the shape of his head attract attention at once. The forehead is full and high, but not bossed. There is an increase in the biparietal diameter, so that the ears are turned outward from the head. The occipital prominences are also conspicuous. The ears are large, and lack some of the normal folds of the pinna. The bridge of the nose is somewhat depressed. The hair of the eyebrows is scanty. The epicanthic folds are in excess, and there is a slight Mongolian slant about the eyes. The palate is high arched. The mouth is open, and the facies generally suggests adenoid obstruction.

Extremities.—The joints are lax and flail-like with definite subluxation of the elbows. The fingers are slightly clubbed.

Spine.—Lordosis is present on standing.

Chest.—Pigeon-breast deformity and a marked Harrison's groove are present. The right side of the chest is fuller than the left, yet expansion is the better on the left.

Abdomen.—The abdominal wall is flaccid. The spleen is palpable at the costal margin. The liver is not enlarged.

Lungs.—The percussion note is slightly impaired at the left base and the air entry is deficient, but the latter improves when the child is turned on the right side. The breath-sounds are exaggerated over the entire right side.

Heart.—There is no cyanosis and no dyspnœa at rest in bed. Pulsation is visible in the epigastrium and over the rib cartilages to the left of the epigastrium. The apex-beat is in the sixth intercostal space ½ in. external to the nipple line. Over the inner portion of the second, third and fourth right intercostal spaces there is visible and palpable pulsation and a corresponding dulness, which extends about 2 in. from the right border of the sternum. On the other hand, cardiac dulness is not marked to the left of the sternum, and pulsation is not so evident. The area of pulsation measures 6 in. transversely. No thrill is felt on either side. At the apex both sounds are heard and there is no murmur. In the third intercostal space on the left a soft systolic blow is heard, while over the dull area to the right of the sternum the murmur is loud and the second sound is exaggerated. The systolic bruit is especially noticeable in the region of the right nipple, but it is not conducted into the right axilla. The pulse is small and regular.

Tracings of the radial pulse with the Mackenzie polygraph are normal. When the receiver is placed over the cardiac apex and over the right nipple the tracings are similar, suggesting expansile pulsation on the right side, and not merely a communicated impulse, as from a new growth.

Urine examination is negative.

Wassermann reaction is negative.

Fluoroscopic and radiographic examinations.—A pulsating mass is seen to the right of the sternum, corresponding to the dull area on percussion. The plate indicates also a large mass, which extends out into the position of the right lung, with convex surface toward the right.

Progress.—The child was in the hospital five weeks, during the first three of which he had an afternoon temperature ranging between 100° and 102° F. The cause of the pyrexia remained unexplained. He had occasionally slight catarrhal signs in the lungs. A hacking cough was present continually, and at night this became paroxysmal, like whooping-cough. The pulse ranged between 76 and 110, the higher rate occurring only when the temperature was elevated. Similarly, the respirations were between 20 and 36. He was up about the ward after the temperature had settled, and he showed no symptoms of distress.

A second fluoroscopic examination was made before he was discharged, with the following report: "The cardiac apex is in the normal position. On the right side there is an expansile mass which moves synchronously with the apex-beat. On the left side of the chest a pale shadow extends to a level well above the apex of the heart. The diaphragm moves well on both sides."

After discharge from the ward he was under observation in the out-patient department until his death. He had attacks of diarrhœa alternating with constipation, and occasional sudden attacks of sickness. The usual complaint, however, was the cough. Three months after leaving the hospital the gurgling sounds which the mother had noted were very distinct. A radiographic plate (see Fig. 1) was taken. The shadow on the left was interpreted

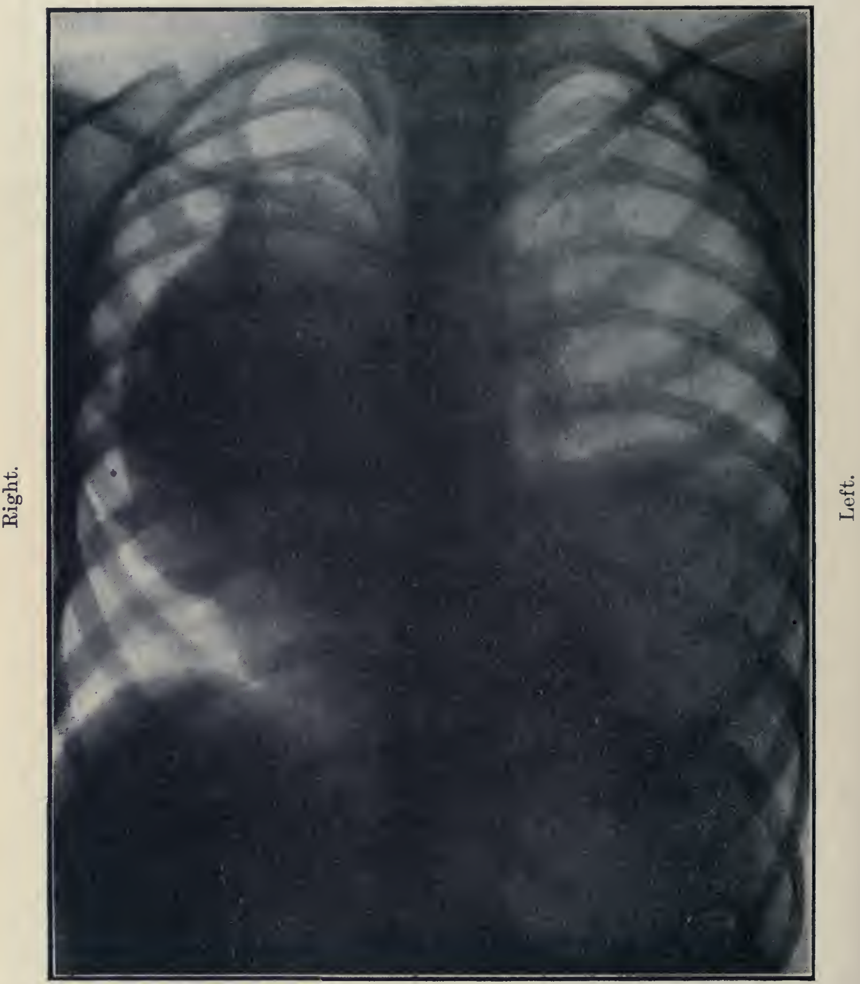


Fig. 1.—Skiagram of a boy, aged 5½ years, showing the shadow of an aneurysm of the ascending aorta on the right, and of a diaphragmatic hernia on the left.

as being due to a diaphragmatic hernia. The clinical note was made, at the same time, of impairment of resonance and diminished breath-sounds over the left lower lobe.

During the year and five months that the child was under observation no change in the cardiac condition was detected. There was always dyspnœa on exertion, yet his general health continued good. He was seen two weeks before his death.

In March, 1917, while in an ordinary state of health, and with no unusual exertion, while undressing to go to bed he suddenly cried out, and fell over dead.

POST-MORTEM EXAMINATION.

One of us was permitted to make a partial examination in the child's home.

Thorax.—On opening the chest the pericardial sac, much distended with fluid, occupied the greater part of the cavity. Neither adhesions nor fluid were present in the pleural cavities. The pericardial sac with the heart was removed without opening for later examination.

Lungs.—There was complete collapse of the right middle lobe and partial collapse at both bases. The larger bronchi showed a chronic catarrhal condition, otherwise the lungs were normal.

Abdomen.—The colon was dilated. The stomach was dilated, and lay nearly entirely within the thoracic cavity. The diaphragm was distinctly thinner on the left than the right side. The œsophageal opening admitted the four fingers easily, and the dilated cardiac portion of the stomach passed readily through this opening into the thoracic cavity.

Except for fœtal lobulation of the kidneys, the liver, spleen and kidneys showed nothing abnormal.

EXAMINATION OF THE HEART.

On opening the pericardium about 16 oz. of clotted blood escaped. There was no pericarditis. A fusiform aneurysm of the ascending arch of the aorta, in size equal to the heart itself, presented. On the posterior surface of this aneurysm was a linear rupture of 2 cm. The auricles were not dilated. The endocardium was smooth and glistening, and all valves were normal in appearance. No degenerative changes in either myocardium or endocardium were noted. There was a small opening between the two auricles.

Except for this defect, and the aneurysm, the heart appeared quite healthy.

Prof. S. G. Shattock has examined the specimen of aortic aneurysm, and has kindly supplied us with the following detailed report:

"The ascending portion of the arch of the aorta is widely and uniformly dilated, so as to form a fusiform aneurysm which has a diameter approximately of 4 cm. and a length of 10 cm. The wall of the aneurysm is notably thickened, its measurement being 3 mm., whilst the thickness of the thoracic aorta is only 1·5 mm., and that of the trunk of the pulmonary artery also 1·5 mm., as taken after preservation in Kaiserling's fluid. The aorta beyond the aneurysm appears small by contrast; its diameter beyond the origin of the main trunks is ·7 cm. The ductus arteriosus is normally obliterated. In the posterior wall of the aneurysm there is an oblique rent, 2 cm. in length, which opened into the sac of the pericardium.

"The auriculo-ventricular, aortic and pulmonary valves are normal; there is a small communication between the auricles.

"The wall of the left ventricle is hypertrophied.

"The aorta is stenosed, but not closed, between the insertion of the ductus arteriosus and the origin of the left subclavian artery.

"Microscopic examination of the wall of the aneurysm shows that the thickening is due to a hyaline sclerosis affecting the deeper part of the intima and the immediately subjacent zone of the media.

"There is no lymphocytic or polymorphonuclear leucocytic infiltration. The cells, which are somewhat scantily distributed in the thickened intima, are of the connective-tissue kind; they are much increased in size and vacuolated, and are devoid of any regular disposition; they are of various form, and lie in distinct spaces in the dense hyaline material. In the subjacent portion of the media the muscle cells retain their parallel arrangement in the sclerotic basis.

"The fibrous nature of the thickening is shown by its staining red with Van Gieson's picro-fuchsin.

"As told by the use of Scharlach, the vacuolation of the cells is due to the accumulation of fat; in a few instances the cytoplasm contains one drop of fat, but in most, numerous and somewhat coarse droplets. None of the fat has been set free by actual disintegration of the cells.

"In sections stained with orcein a certain amount of elastic tissue persists in the hyaline material, throughout which it has been disparted in disconnected fragments; whether it is diminished in actual amount is difficult to determine.

"In sections stained with carbol thionine no bacteria are shown, and no spirochætes were discoverable in sections stained by Levaditi's method; although numerous pseudo-forms arise from the staining of the fine elastic fibres, these want the proper undulation.

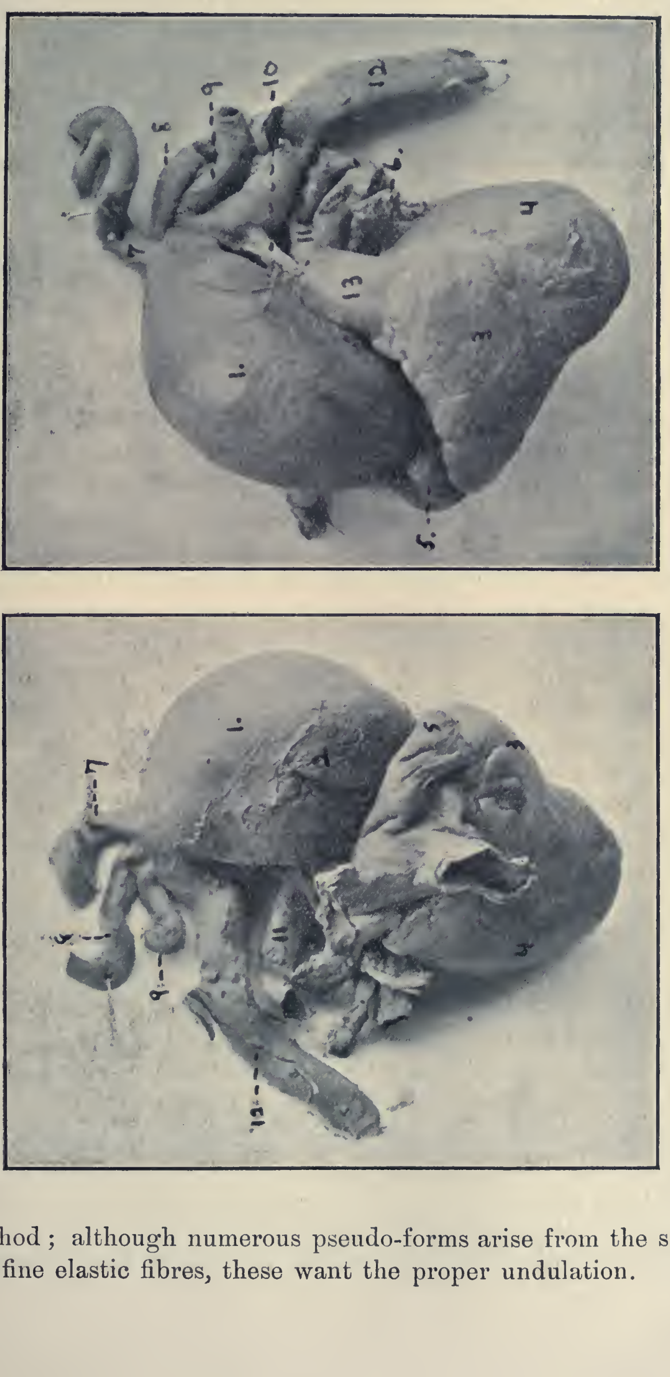


Fig. 2.—1. Ascending aorta, showing aneurysmal dilatation. 2. Linear rupture. 3. Right ventricle. 4. Left ventricle. 5. Right auricle. 6. Left auricle. 7. Innominate artery. 8. Left carotid. 9. Left subclavian. 10. Ductus arteriosus. 11. Left pulmonary artery. 12. Descending aorta. 13. Pulmonary artery.

"The most probable view, perhaps, of the pathogenesis of the condition is that, in consequence of the increased tension of the arch on the proximal side of the stenosis, a general protective sclerosis of the intima has been set up, the subjacent portion of the media being also involved; this has proceeded *pari passu* with the dilation, a vicious circle being established.

"Against a syphilitic origin are: The absence of the Wassermann reaction; the absence of spirochætes in the tissue; the strict limitation of the disease to the portion of the aorta subject to abnormal pressure, and the absence of any involvement of the aortic valve; the uniformity of the change, and the want of small cell-infiltration."

DISCUSSION.

The necropsy revealed the cause of sudden death and also the explanation of the clinical signs referable to the heart. During life the diagnosis was not clear. There was a large pulsating mass in the thorax to the right of the sternum, while to the left of the sternum the heart seemed to be either displaced or enlarged, as judged by the position of the apex, 1 in. beyond the nipple line. Examination of the left side of the heart revealed nothing abnormal. On the other hand, to the right of the sternum and as far out as the right nipple there was a loud systolic murmur, present also, although not so loud, in the pulmonary area. To the pulsating mass on the right of the sternum was ascribed the paroxysmal cough, from pressure, and also the venous engorgement of the veins in the neck. With the exception of the shortness of breath on exertion, which persisted throughout his life, no symptoms were directly referable to the heart. A diagnosis of aneurysm was strongly suggested by the skiagram, and in the case of an adult one would not have hesitated to make this diagnosis with confidence. On the other hand, no evidence of the presence of any disease likely to be associated with aneurysmal dilatation was apparent, and apart from disease the condition is extremely rare in early life. The other diagnosis considered was that of congenital heart disease, with great dilatation of the right side of the heart. In support of this view there was the presence of numerous other congenital malformations. There was also the definite cyanosis, brought on by the slightest exertion, with accompanying dyspnœa. If cardiac changes were present they were clearly congenital in origin, for there were no evidences of acquired heart disease. The final diagnosis was not made until the necropsy.

A condition of diaphragmatic hernia was not at first suspected.

Early in the case it was noted that there was some impairment in the percussion-note at the base of the left lung, and that the air-entry there was deficient. This was a variable condition and might be altered by placing the boy on his right side. An early skiagram showed a shadow external to the cardiac area on the left side. It was not until the mother referred to the "gurgling" sounds produced by the boy, and which could be felt and heard, that the possibility of diaphragmatic hernia was considered. Another skiagram showed a definite shadow in the left side of the thorax, and a diagnosis of diaphragmatic hernia was made. This diagnosis explained the attacks of pain in the chest associated with vomiting which the mother had described. The necropsy showed that while nearly the whole of the stomach had passed into the thorax, the width of the opening was such as to allow movement of the stomach and its contents.

We have to express our great indebtedness to Prof. A. Keith and Prof. S. G. Shattock for their assistance and advice. The specimen of the aortic aneurysm described is now in the Museum of the Royal College of Surgeons.

We consider this aneurysm to have been due to a congenital defect in the development of the aorta. This conclusion is strengthened by the presence of other congenital defects—the shape of the head, ears, and eyes, the subluxation of joints, and a diaphragmatic hernia—and by the absence of any inflammatory changes in either heart or aorta. A partial stenosis between the insertion of the ductus arteriosus and the origin of the left subclavian artery had resulted in a fusiform dilatation on the proximal side in an otherwise healthy aorta.

Aneurysms similar in origin to the above have been reported by Smith and Targett, and by Wasastjerna (see below).

ÆTIOLOGY.

Aneurysms in children may be classified according to ætiology into—(1) Arteriosclerotic; (2) traumatic; (3) embolic or septic; (4) false, due to erosion from without; (5) due to congenital anomalies.

(1) Aneurysms due to sclerotic and atheromatous changes in the aorta and the great vessels have been much studied in recent years. Among the earlier reports of aneurysms in children, Moutard-Martin, Sanné, and Berry have mentioned the presence of atheromatous patches. Discussions of this cause of aneurysms are given by

Oppenheimer, Willson and Marcy, Chiray and Ségard, Moizard and Roy, Rebaudi, Franckel, Veale and Carey Coombs, and v. Koós. In regard to the ætiology of the degenerative changes, evidence of lues is often present. Microscopic, as well as macroscopic study of the aortas from stillborn infants, has revealed infiltration with mononuclears, the presence of spirochætes, and early degenerative changes in a surprising number of cases. Such lesions in infancy suggest that many aneurysms of adolescent and early adult life may be due to congenital lues. For instance, Nixon has reported an aneurysm of the abdominal aorta associated with an extreme grade of atheromatous degeneration in a girl, aged 20 years, who showed no clinical signs of congenital lues except Hutchinson's teeth.

(2) True traumatic aneurysm of the aorta is exceedingly rare in childhood. We found in the literature only the doubtful case reported by Pendin.

(3) Under embolic and septic aneurysms are included those due directly to a septic embolus, as in the cases of Jordan and Voelcker, also the cases associated with rheumatism, as described by Comby, Marfan, Zuber, and Moore. De La Rue and Feytaud regard as rheumatic several instances with definite atheromatous changes in the aorta.

(4) An aortic aneurysm in a child due to an erosion from without has been reported by Hutchinson. The aneurysm below the constriction in Smith and Targett's patients, and the aneurysm described by Willet, both probably belong to this group. J. Jackson Clarke's cases are reported very briefly. In the first a caseous bronchial gland had discharged itself into both the aorta and the trachea ; in the second, a child, aged 3 years, an aneurysm appeared to follow erosion by an inflamed lymph-gland.

(5) Since our case comes under the group due to congenital malformations, we shall give brief summaries of the recorded cases of this type.

(1) (*Martin*, 1827).—In an infant, aged 1 month, an aneurysm of the ductus arteriosus, the size of a small nut, and filled with blood-clot, was found.

(2) (*Thoma*, 1890).—In a woman, aged 26 years, who died of typhoid fever, there was an aneurysm of the aorta at the point of insertion of the ductus arteriosus. An exceedingly short ductus was partially closed toward the pulmonary artery side by a circular membrane, but opened like a funnel into the aorta, with no dividing line between ductus and aorta. Thoma considered the origin of the aneurysmal dilatation to be the traction of a much-shortened and

unobliterated ductus on the aorta. Dr. John Thomson described a case of congenital heart disease in a female child, aged 4½ years, in whom the ductus arteriosus was about ¼ in. long, with a small aperture into the pulmonary artery, a similar ring of intima, and a cone-shaped widening toward the aorta. Apparently his case was a less conspicuous example of the same type of dilatation.

(3) (*Smith and Targett*, 1897).—A boy, aged 9 years, was admitted to hospital, and died soon after tracheotomy was performed. At the necropsy an aneurysm of the arch of the aorta just beyond the origin of the left subclavian artery was found. About 1 in. distal to the dilated arch, and exactly opposite the attachment of the ductus arteriosus, the lumen of the aorta was suddenly narrowed by means of a septum with a central oval aperture, which measured $\frac{3}{16}$ in. in its chief diameter. The dilated portion of the aorta had thin walls, and most of the elastic tissue was lacking. There was nothing abnormal about the adventitia or endothelium. Immediately beyond the septum the aorta resumed its normal size, and ½ in. beyond the mouth of an aneurysmal sac was reached. This aneurysm was oval, 1½ by 1 in. in diameter. It was sacculated, and the coats of the vessel could not be followed into the sac. The tissues about the aneurysm were infiltrated with inflammatory products, so that the œsophagus, aneurysm and aorta were matted together.

It is easy to explain the fusiform aneurysm proximal to the stenosis. The sacculated aneurysm distal to the stricture was probably due to erosion of the aorta from without as noted above.

(4 and 5) (*Roeder*, 1900).—In a monograph on the subject, two cases of rupture of aneurysms of the ductus arteriosus were reported. In the first, a male infant, dying on the second day of life, the aneurysm was fusiform in type; in the second, a female infant, dying on the third day, a dissecting aneurysm had ruptured. In neither case was there any suspicion of syphilis.

(6) (*Wasastjerna*, 1903).—A healthy boy, aged 13 years, died suddenly. The walls of the aorta were exceedingly thin and the aorta dilated. A rupture had occurred not far from the semilunar valves. The endocardium, valves, intima and coronary arteries were normal. Just below the origin of the subclavian artery there was a nearly complete congenital stricture of the aorta. A remarkable collateral circulation had been established.

(7) (*Dry*, 1916).—A congenitally weak infant died on the third day of life. Between the pulmonary artery and aorta was a fluctuating, cystic mass the size of a large cherry. It contained a small

amount of recent blood-clot. There was no evidence of thrombosis. Communication was free into both pulmonary artery and aorta. No luetic history was obtained, and no signs of this disease were found about the child.

Phänomenow's case of abdominal aneurysm as a cause of dystocia we think was probably of syphilitic origin, as fatty degenerative changes were found in the aorta.

There are thus on record five aneurysms associated with congenital anomalies of the ductus arteriosus, and three cases, including our own, of aneurysmal dilatation of the thoracic aorta associated with congenital stricture of the aorta.

RUPTURED AORTIC ANEURYSMS.

In the literature we have found seven cases of ruptured thoracic aortic aneurysms, as follows:

(1) (*T. R. Smyth*, 1834).—An apparently healthy boy, aged 16 years, was seized with sharp pain in the region of the heart after ascending a ladder. He died fifty-one hours later. At the necropsy the pericardium contained 36 oz. of blood. The aortic valves were cartilaginous and considerably puckered. The mitral valves were somewhat thickened. There was cardiac hypertrophy, especially of the left ventricle. Death was due to the rupture of an aneurysm, the size of a walnut, on the arch of the aorta.

(2) (*Jones*, after Crisp, 1847).—An aneurysm of the ascending aorta in an athletic boy, aged 16 years, ruptured into the pericardium.

(3) (*Berry*, 1898).—A healthy boy, aged 15 years, fell over dead when about to bowl at cricket. The pericardium was distended with 12 oz. of blood. The ascending aorta for the first inch was closely adherent to the pericardium. Just below the line of reflection of the pericardium there was a transverse tear in the aorta, and below this, a fusiform aneurysm. In the wall of the sac and at the point of rupture were a few fatty patches. Thinning of the media was obvious. In the descending aorta there were a few small patches of atheroma. The aortic valves were slightly thickened. The ventricles were normal. Berry found no signs either of congenital syphilis or rheumatism.

(4) (*Jordan*, 1903).—A male child, aged 6½ years, who had suffered from otorrhœa since babyhood, was taken acutely ill with fever and vomiting. He was very ill for four days, and then gradually improved. Two weeks later, when apparently convalescent, he died suddenly. At the necropsy there was an ante-mortem clot in the left lateral sinus. The pericardium was full of blood. On the

ascending arch of the aorta was a sacculated swelling with a horizontal slit-like rupture. A triangular flap opened outward from the aorta into this tumour. The aorta, cardiac muscle, and the valves were normal. Jordan thought the origin of the aneurysm was in a localised septic aortitis, possibly from a minute embolus in one of the vasa vasorum.

(5) (*Wasastjerna,* 1903).—This case has been described under aneurysms due to congenital malformations. Wasastjerna classed his case as a ruptured aorta, but the dilatation, shown by his sketch and by his description, is very similar to that in Smith and Targett's and our own cases.

(6) (*Horder,* 1907).—A boy, aged 12 years, was admitted to St. Bartholomew's Hospital with pain in the chest. He had marked cardiac enlargement to the left. Nine days after admission he had a spasm of difficult breathing and died in a few seconds. The pericardium contained 12 oz. of blood. The heart was small and almost empty. The valves, myocardium, and coronary arteries were normal. The first part of the aorta was elongated and greatly dilated, forming a large fusiform aneurysm. The fusiform swelling ceased rather abruptly above at the level of the ductus arteriosus. Considerable endarteritis was present, with nodular thickenings of the intima, but without ulceration. About one inch above the aortic orifice the inner and middle coats were torn by a transverse rent, and another rent extended upwards. Toward the pulmonary artery the ruptured portion was covered by a fresh clot, and led into a dissecting aneurysm the size of a small walnut. A hole in this dissecting aneurysm indicated the point of rupture into the pericardium. There were no definite signs of congenital syphilis or rheumatism. The dissecting aneurysm probably originated at the same time as the onset of the pain, two weeks before death.

(7) (*Willson and Marcy,* 1907).—A male child, aged $3\frac{1}{2}$ years, had been under observation since six weeks old, when a loud systolic murmur heard best at the aortic area, but transmitted over the entire chest, was noted. When three years old he had a febrile attack of unknown origin, otherwise he had been fairly healthy. At $3\frac{3}{12}$ years he showed marked general glandular enlargement. Over the episternal notch there was expansile pulsation, and a thrill was palpable over the entire upper chest, posteriorly as well as anteriorly. The percussion note was flat over the manubrium, and to right and left for $2\frac{1}{2}$ in. There was a loud, almost continuous, systolic-diastolic bruit, with its greatest intensity over the second interspace to the right of the sternum. Both the aortic and

pulmonic heart-sounds were diminished. The radial pulses were equal. The arterial tension was high and the radial arteries thickened. One week after these notes were made he was taken much worse, with occasional rigors. The left radial pulse could no longer be felt. Death occurred two days after the onset of the rigors.

At the necropsy the heart was in systole. An aneurysm of the ascending and transverse arch of the aorta had ruptured into the pericardium, through an ulcerated area 1 cm. in width. Considerable pericarditis along the upper and outer area of the visceral and parietal pericardium was present. The aortic valves were much stenosed, the opening almost occluded, and the aorta showed extensive patches of atheroma. The authors regarded the case as undoubtedly one of syphilitic origin.

Closely related to these seven cases of rupture of thoracic aortic aneurysms is the following case of ruptured aorta:

(*Oppenheimer*, 1905).—A girl, aged 9 years, who was usually healthy, complained of headache and fainted. Two days later she fell over dead. At the necropsy a defect was found in the aorta just above the semilunar valves, with rupture at this point. The rupture started in the intima and media, and involved the adventitia at one point only. The media of the aorta was diseased, showing fatty, and, in places, atheromatous changes. Even in parts macroscopically normal, microscopically media, intima, and elastic tissue fibres showed pathological changes. No other signs of syphilis were noted, and there was no arterial sclerosis elsewhere.

Two instances of ruptured abdominal aortic aneurysms have been described:

(1) (*Miguel*, 1834).—A male child, aged 14 years, was admitted to hospital in a collapsed condition, and died the same day of a ruptured aneurysm of the abdominal aorta. Two other similar aneurysmal tumours were found. There was no disease of the heart.

(2) (*Armitage*, 1857).—A girl, aged 7½ years, with a history of palpitation all her life, was first seen five weeks before death. She had increased præcordial dulness and hypertrophied cardiac action. A few days before death she complained of pain in her joints. While sitting up one day she had a convulsion, followed in fifteen minutes by a second. She died an hour later. At the necropsy there were neither endocarditis nor atheromatous changes in the coats of the arteries. The aorta had ruptured at its bifurcation. The intervening space was a sac the size of a walnut, with thin, ragged

walls. On the posterior wall of the right iliac artery was a small patch of diseased intima.

The history in MacKeen's and also in Renon's cases (as described by Feytaud) strongly suggests a ruptured thoracic aneurysm as the cause of death, but no post-mortem examination was permitted in either. We have omitted descriptions of aneurysms, as those of Rie, Smith, Roger, Zuber, Barbier, Comby, Le Boutillier, Bacelli, and MacNalty, diagnosed clinically, but not confirmed by post-mortem examination.

SUMMARY.

(1) A case is recorded of death due to the rupture of a fusiform aneurysm of the ascending arch of the thoracic aorta in a child, aged $5\frac{10}{12}$ years. The aneurysm apparently followed a partial stenosis of the aorta between the insertion of the ductus arteriosus and the left subclavian artery. That this stricture was a congenital anomaly was supported by the presence of a diaphragmatic hernia, subluxation of the joints, and defective cranial development.

(2) A brief discussion of the ætiology of aneurysms in children is given.

(3) From the literature are summarised two instances of aneurysmal dilatation due to partial stenosis of the thoracic aorta, also five cases of aneurysms apparently due to congenital anomalies in the structure of the ductus arteriosus. In two of the latter, rupture caused death.

(4) In the literature we have found seven reports of death following rupture of the thoracic aortic aneurysms in children, one case of rupture of the aorta without aneurysm, and two cases of rupture of aneurysms of the abdominal aorta.

BIBLIOGRAPHY.

AITKEN.—"Aneurysm of Abdominal Aorta in a Boy, aged 9 Years," 'Brit. Med. Journ.,' 1898, i, p. 1655.

ALEXEJEFF.—"Ein Fall von Aneurysma der Bauchaorta bei einem 10 jährigen Mädchen," 'Arch. f. Kinderheilk.,' 1899, xxvi, p. 109.

ARMITAGE.—"Rupture of Abdominal Aorta in a Child," 'Trans. Path. Soc.,' 1857, ix, p. 85.

BACELLI.—"Des Anévrysmes de l'Aorte" (case report of a male, aged 17 years), 'Semaine Méd.,' 1898, xviii, p. 137.

BAGINSKY, A.—"Aneurysma der Bauchaorta und der A. subclavia bei einem $7\frac{3}{4}$ Jahre alten Mädchen," 'Arch. f. Kinderheilk.,' 1908, xlviii, p. 1.

BARBIER.—"Anévrysme de la crosse de l'Aorte chez une fille de treize ans," 'Bull. et Mém. Soc. Méd. Hôp. de Paris,' 1918, 3 sér., xlii, p. 173.

Berry.—"Ruptured Aortic Aneurism in a Boy of 15 Years," 'Brit. Med. Journ.,' 1898, ii, p. 1745.

Boutillier (Le).—"A Case of Aneurism of the Transverse Portion of the Aortic Arch in a Girl of 9 Years, with Table of Reported Cases under 20 Years," 'Amer. Journ. Med. Sci.,' 1903, cxxv, p. 778.

Bruhns, C.—"Über Aortenerkrankung bei kongenitaler Syphilis," 'Berl. klin. Wochenschr.,' 1906, xliii, pp. 217 and 268.

Chiray and Ségard.—"Anevrysme de la crosse aortique d'origine Hérédo-syphilitique," 'Bull. et Mém. Soc. Méd. Hôp. de Paris,' 1908, xxvi, p. 275.

Clarke, J. Jackson.—"Aneurysm of the Aorta in a Child" (brief note), 'Brit. Med. Journ.,' 1892, i, p. 765.

Comby, J.—"Anévrysme aortique rhumatismal ches une fille de quatorze ans," 'Arch. de méd. des enf.,' 1906, ix, p. 544.

Idem.—Ibid., 'Bull. Soc. de Péd. de Par.,' 1906, viii, p. 11.

Crisp.—'Dis. of Blood-vessels,' 1847 (table of aneurisms, No. 341). (Mr. Jones's case of ruptured aortic aneurism in a boy of 16 years.)

Dory.—"Congenital Aneurysmal Dilatation of Ductus Botalli," 'Proc. Path. Soc. Philadelphia' [1916], 1917, xxxvii, p. 49.

Feytaud, Jean.—"Des anévrysmes de l'aorte d'origine rhumatismale," 'Thèses de Paris,' 1905-6, No. 313.

Franckel, A. Lévy (Bibliography).—"Pathogénie et anatomie pathologique de l'aortite chronique et de l'athérome infantile," 'Arch. des mal. du Cœur,' 1912, v, p. 625.

Hallé and Schreiber.—"Ectasie aortique chez un enfant," 'Bull. Soc. de Péd. de Paris,' 1911, xiii, p. 184.

Harvey, W. H.—"Congenital Aneurysm in a Young Rabbit," 'Journ. Path. and Bact. Camb.,' 1913–14, xviii, p. 343.

Horder, T. J.—"Dissecting Aneurism of the Aorta in a Boy of 12 Years, with Rupture into the Pericardium," 'St. Bart.'s Hosp. Rep.,' 1907, xliii, p. 57.

Hutchinson.—"False Aneurysm of the Arch of the Aorta from a Child of 4 Years," 'Trans. Path. Soc.,' 1853, v, p. 104.

Jacobi.—"Aneurysms in Early Life," 'Arch. Pediat.,' 1890, vii, p. 161.

Jordan.—"Aneurism of the Ascending Arch of the Aorta in a Small Boy," 'Lancet,' 1903, i, p. 515.

Keen.—"Two Cases of Aneurism in Girls of 18 and 8 Years of Age, with a List of Reported Cases under 20 Years of Age," 'Med. News,' Philadelphia, 1887, li, p. 725.

v. Koós.—"Aneurysmen im Kindesalter," 'Jahrb. f. Kinderheilk.,' 1916, n.f., lxxxiii, p. 471.

La Rüe (de).—"Des affections acquises de l'Aorte ches l'enfant (Orifice et crosse de l'Aorte). (P. 90, Anévrysmes de la crosse de l'Aorte)," 'Thèses de Paris,' 1902–1903, No. 341.

Lidell.—"Internal Aneurism and its Relation to Sudden Death," 'Amer. Journ. Med. Sci.,' 1867, liii, p. 46.

MacKeen.—"Aneurism of Aorta in Child of 4½ Years," 'Med. News,' Philadelphia, 1892, lxi, p. 272.

MacNalty.—"Case of Thoracic Aneurism in a Boy," 'Proc. Roy. Soc. Med.,' 1909–10, iii (Clin. Sect.), p. 35.

Madsen [unable to obtain].—"Rupture of Aneurysm of Aorta in a Child of 17 Months," 'Med. Rev.,' Bergen, 1916, xxxiii, p. 530.

Martin.—"[Aneurysm of Ductus Arteriosus in an Infant]," 'Bull. Soc. Anat. de Paris,' 1827, ii, p. 17.

Miguel.—"Anévrysme de l'aorte abdominale chez un enfant," 'Bull. Gén. de Thér.,' 1834, ix, p. 393.

Moizard and Roy.—" Dilatation anévrysmale de l'Aorte chez un enfant de 15 ans, avec aortite chronique," 'Bull. Soc. de Péd. de Paris,' 1908, x, p. 14.

Moore.—" Aneurysms in Children," 'Trans. Path. Soc., Lond.,' 1882–3, xxxiv, p. 71.

Moutard-Martin.—" Rétrécissement aortique et aortite chronique ches un enfant de deux ans," 'Bull. Soc. anat. de Paris,' 1875, xx, p. 775.

Murdoch, Burn, and Welsh.—" A Case of Aortic Aneurism in a Child," 'Edinb. Hosp. Rep.,' 1900, vi, p. 84.

Nixon, J. A.—" Abdominal Aneurysm in a Girl, age 20, due to Congenital Syphilis, with Tables of Collected Cases of Abdominal Aneurysms," 'St. Bart.'s Hosp. Rep.,' 1911, xlvii, p. 43.

Oppenheimer, R.—" Über Aortenruptur u. Arteriosklerose im Kindesalter," 'Virchow's Arch.,' 1905, clxxxi, p. 382.

Parker, R. W.—" Case of Spontaneous Inguinal Aneurysm in a Boy of 12 Years" (table of recorded cases of external aneurysms), 'Trans. Roy. Med.-Chir. Soc.,' 1884, lxvii, p. 51.

Pendin.—" Ein Fall von Aneurysma Aortae ascendentis bei einem 12-jährigen Mädchen," 'St. Petersburg. med. Wochenschr.,' 1890, n.f., vii, p. 195.

Phänomenow.—" Beitrag zur Casuistik durch die Frucht bedingten Geburtskindernisse," 'Arch. f. Gyn.,' 1881, xvii–xviii, p. 133.

Rebaudi (Bibliography).—" Die Aortitis bei kongenital-syphilitischen Kindern," 'Monatschr. f. Geburtsh. u. Gynäk.,' 1912, xxxv, p. 681.

Rénon and Verliac.—" Anévrisme aigu de la crosse aortique au cours du rhumatisme articulaire aigu" (case shown), 'Bull. et Mém. Soc. Méd. Hôp. de Paris,' 1905, xxii, p. 181.

Rie.—" Aneurysma der Aorta bei einem 5-jährigen Kinde," 'Wien. med. Wochenschr.,' 1889, xxxix, p. 556.

Roeder, Hanus.—" Die Rupture des Ductus arteriosus," 'Arch. f. Kinderheilk.,' 1900, xxx, p. 157.

Roger, M.—" Observation d'Anéurysme de l'Aorte chez un enfant de dix ans," 'Bull. et Mém. Soc. Méd. Hôp. de Paris' [1861–65], 1865, v, p. 499.

Rogers [unable to obtain].—" Anévrysme de l'Aorte thoracique chez un adolescent," 'Montpellier méd.,' 1910, xxx, p. 494.

Rogers, Bertram.—" Aneurysm of Aorta in a Child," 'Pediatrics,' 1899, viii, p. 158.

Sanné.—" De l'anévrysme de l'Aorte et de l'atheromasie aortique dans l'enfance," 'Rev. mens. des mal. de l'enfance,' 1887, v, p. 56.

Smith and Targett.—" Aneurysm of the Aorta in a Boy of 9 Years," 'Trans. Path. Soc. Lond.,' 1897, xlviii, p. 53.

Smith, A. A.—" Case shown of a Boy, aged 18 Years, with Aneurism of Ascending and Transverse Arch of the Aorta," 'Med. Record,' N.Y., 1893, xliv, p. 349.

Smyth, T. R.—" Aneurism of Ascending Aorta (Rupture in a Boy of 16 Years," Lancet,' 1834, i, p. 626.

Thibierge, G. (after Le Boutillier).—'France Méd.,' 1881, ii, p. 913.

Thoma.—" Über das Tractionsaneurysma der kindlichen Aorta," 'Virchow's Arch.,' 1890, cxxii, p. 535.

Thomson, John, and Drummond.—" Nine Cases of Congenital Heart Disease," 'Edinb. Hosp. Rep.,' 1900, vi, p. 49.

Veale and Carey Coombs.—" Cardiac Failure in a Child of 6 Years associated with Atheroma of the Pulmonary Artery and Extreme Dilatation of the Right Ventricle," British Journal of Children's Diseases, 1915, xii, p. 72.

Voelcker.—" Aneurysm of the Aortic Valve in a Child," 'Trans. Path. Soc.,' 1893–4, xlv, p. 51.

Wasastjerna, E.—" Ein Fall von Aortaruptur nach Schlittschuhlaufen," 'Zeitschr. f. klin. Med.,' 1903, xlix, p. 405.

WILLET, EDGAR.—"Aneurism (?) of Aorta in a Child of 4 Years," 'Trans. Path. Soc. Lond.,' 1892, xliii, p. 38.

WILLSON and MARCY.—"Rupture of Aortic Aneurysm in a Male Child of 4 Years," 'Trans. Coll. of Phys.,' Philadelphia, 1907 (3rd series), xxix, p. 48.

WRIGHT and RICHARDSON.—"Treponemata (Spirochætæ) in Syphilitic Aortitis" (five cases, one with aneurism), 'Boston Med. and Surg. Journ.,' 1909, clx, p. 539.

ZUBER.—"Dilatation aortique rhumatismale," 'Rev. mens. des mal. de l'enfance,' 1903, xxi, p. 280.

THE "FOOD DEFICIENCY" OR "VITAMINE" THEORY IN ITS APPLICATION TO INFANTILE BERI-BERI.

By F. M. R. WALSHE, M.D., B.Sc., M.R.C.P., Major R.A.M.C.,
Consulting Neurologist, Egyptian Expeditionary Force.

THE problems of nutrition are daily assuming a wider significance, and no aspect of the question has a greater interest than that of the part played by the "accessory food factors," or vitamines, as, following Funk's somewhat premature and misleading nomenclature, they have been called.

From the well-known observations of Hopkins to the recent work of Cole and Jordan Lloyd all research tends to emphasise the extensive *rôle* these unknown substances play in the growth and nutrition of the organism from the lowest to the highest forms.

It is therefore important that in the case of beri-beri, in which the accessory factor finds its most concrete application in clinical medicine, we should endeavour to determine and define the exact function of the specific vitamine concerned. For while the practical problem of the prevention of beri-beri may be considered to have been largely solved by the work of Chick and Hume (5), who have given precision to our knowledge of the distribution of the vitamines concerned, and have rendered possible the evaluation of a given diet in respect of its vitamine content and its beri-beri producing potentialities, yet the physical and structural chemistry, and hence the mode of action of these bodies, remain entirely unknown.

Although occurring in Europeans under certain conditions of dietary limitation, it is among those oriental races of whose diet highly milled rice forms the staple article that the disease is most common. Infantile beri-beri occurs among the children of the latter, and has been defined (9) as "an acute or subacute disease affecting infants who are nursing mothers suffering from beri-beri. It is characterised by cardiac hypertrophy and a peripheral neuritis, and results in a clinical picture of generalised œdema, dyspnœa, cardiac disturbance, gastro-intestinal derangements, oliguria and aphonia. It is a form of true beri-beri, and like the beri-beri of adults is caused by the deficiency of some important substance in the food—that is, in the milk from a mother who is suffering from a similar deficiency."

Although on clinical and pathological grounds both Japanese and Philippine observers—to whom, with the Americans, we owe our knowledge of the disease—have regarded it as an intoxication, yet Andrews (1) and Chamberlain and Vedder (4) believe that their demonstration of a "deficiency" element in its production excludes this possibility. Whether both factors may not be operative is a point it is proposed to discuss.

While infantile beri-beri cannot be said to constitute a problem of directly practical importance in England, yet in respect of the light it throws on the adult form of the disease, and on the ætiology of the deficiency diseases in general, it has an interest of its own.

The Present Position of the Vitamine Theory.

From avian and human experiments and observations independently it has been concluded that beri-beri is directly due to the absence of a specific accessory factor, or vitamine, from the diet. This is supposed to be followed by an impaired metabolism of nervous tissues, and a degeneration of these that is the basis of the disease. Broadly stated, this is the vitamine, or deficiency theory of the origin of beri-beri. Whether this is adequate to account for all the facts, and to constitute a complete elucidation of them or not, it is the object of this paper to discuss.

In 1911, speaking of the function of the so-called "antineuritic vitamines," Fraser and Stanton (6) observed: "Whether these substances act by rendering other elements in the diet available for nutrition, or whether they are themselves the nutritive material necessary for nerve tissues, can in our present state of knowledge only be matter for conjecture."

From this point there has since occurred a divergence among subsequent workers in this field. Vedder (9) and his American co-workers hold that the antineuritic vitamine is directly concerned in the nutrition of nervous tissues, of which it is "an essential building stone." When a diet lacks this, the nutrition of the nervous system at once suffers, and it degenerates progressively until a point is reached at which the symptoms of beri-beri appear. According to this view, therefore, the disease consists of a slowly progressive, diffuse, degenerative process affecting the entire nervous system (Vedder*).

A somewhat different view is held by Funk, Braddon and Cooper (2), and the majority of recent observers. They maintain that, in an as yet unknown way, the antineuritic vitamine is concerned in carbohydrate metabolism, and is essential to the organism in direct proportion to its carbohydrate consumption.

This hypothesis still lacks complete formulation, nor have its upholders followed it to its logical conclusion. For, if correct, it indicates the existence of a second factor in beri-beri production: not only is the absence of vitamine an essential condition, but the presence of carbohydrates in the diet must be equally so. To these as yet no *rôle* has been assigned, though they must manifestly play some part in the genesis of the disease according to this view. However, even the most recent work—for example, that of Chick and Hume—still describes "the vitamine whose presence in a diet is an essential for the proper nutrition of the nervous system." From which it appears that, although the association of vitamine with carbohydrate in this instance may be accepted, the deficiency theory as commonly held is still a purely negative, single-factor hypothesis, in which the profound significance of Braddon and Cooper's observations does not obtain recognition.

There are sufficient data for an analysis of these two views, and it seems clear that Vedder's hypothesis is untenable, while that associating the antineuritic vitamine with carbohydrates constitutes a distinct advance thereon.

The question may be approached from several aspects. We may ask, first, whether the clinical and pathological facts of beri-beri are compatible with the view that it is a slowly progressive diffuse nervous system degeneration; secondly, whether deprivation of vitamines is alone sufficient to produce it; and thirdly, whether carbohydrates can be excluded as a causal factor in its production.

---

* It is not always easy to determine precisely what Vedder's views are, on account of the frequent and disconcerting modifications these undergo in the process of correlating fact with theory. Thus, in describing the symptomatology of beri-beri in his book (9), he states that the motor disturbances are due to a paralysis which is a "direct result of the neuritis." Later we read that "in fowls at least the paralysis is not caused by the neuritis. It is extremely probable that the same is true of human beri-beri," and again, "peripheral neuritis *per se* cannot be the essential lesion of beri-beri," and finally, "the paralytic symptoms are particularly caused by the degenerative changes in the cells of the cord and possibly the brain." Thus he establishes the thesis, which his theory necessarily involves, that the nervous system is the seat of a diffuse, progressive degeneration due to vitamine starvation. Apart from the neurologically unsound character of these propositions and of the data upon which they are based, the rationalising process of which they give evidence must react unfavourably on the weight that can be attached to work so dominated by speculative considerations.

Elsewhere (11) I have endeavoured to demonstrate that the clinical characters of beri-beri are incompatible with Vedder's explanation of the pathogenesis of the disease. The fulminating character of acute pernicious beri-beri, in which a robust man in the full vigour of life, after an acute illness of two or three days, dies a more or less agonising death of cardiac failure (Hamilton Wright (7)), the clinical identity of the neuritis of beri-beri with other forms of toxic polyneuritis, and the cardiovascular phenomena, cannot but convince the neurologist that the theory is totally inadequate to account for the facts.

Further, from the earliest pathological investigations of Baelz, Scheube, and Pekelharing and Winkler to the very recent observations of Lhermitte (8), there has been a consensus of opinion among writers that the nervous lesion is not specific for beri-beri, and is indistinguishable from that of a toxic polyneuritis. The last-named observer is very clear on this point, and he concludes his observations as follows: "La constation des lésions corticales est un trait de plus qui permét de rapprocher la polynévrite alimentaire avitaminique, le béri-béri experimental, des polynévrites toxiques." These conclusions of a writer, unique among investigators of the disease in that he is a neuropathologist, are most significant in their bearing on the disease.

Judged by the clinico-pathological method, which exponents of the deficiency theory consistently ignore, all the facts of the disease indicate an intoxication with a special, but by no means exclusive, incidence in the nervous system.

The symptom-complex and pathological basis of beri-beri are thus seen to be very striking and positive phenomena, quite unlike the slow dissolution of structure and function of the nervous system implied in Vedder's theory, and it may be asked whether a purely *negative* factor, such as the *absence* of a given food constituent or vitamine, can be conceived as the sole, direct and immediate *cause* of a disease in which polyneuritis, to mention but a single aspect of the disease, is a predominating symptom.

It is not too far-fetched, perhaps, to recall in this connection a famous axiom of Hughlings Jackson with regard to cerebral disease. He said that negative or destructive lesions could not cause positive symptoms, but might allow of their development—in other words, two factors were concerned in the production of a spastic paralysis, destruction of pyramidal fibres causing the negative symptom paralysis, and a consequent unbalanced activity of other centres causing the positive symptom spacticity.

So with beri-beri, *absence* of vitamine cannot be an adequate *cause* of polyneuritis, which is clearly a positive reaction to a direct and positive cause. A carbohydrate metabolism, disordered in consequence of this privation, might, as we shall see later, conceivably provide this direct and positive cause.

The neglect of this principle is very evident in all writings on the deficiency theory of the origin of disease, and in the case of beri-beri is the obstacle before which the theory is at present halted. Its application to all presumed deficiency diseases is no less worthy of consideration.

There is considerable evidence in support of this *à priori* reasoning on both clinical and experimental sides, and this may be briefly resumed. Fraser and Stanton (6) found that fowls, fed on water only, outlived the latent period necessary for the appearance of polyneuritis in appropriately fed birds, dying eventually in the fourth and fifth weeks with neither clinical nor pathological signs of the disease. On the other hand, Chamberlain and Vedder (3) record the appearance of microscopical evidence of nerve degeneration as early as the seventh day in fowls on a white rice diet. From this it follows that simple deprivation of vitamine—and in this respect starvation is the equivalent of an avitaminic diet—does not suffice to cause polyneuritis. A second, positive factor is necessary.

It is apparent from all recent experimental work that this second factor is apparent by carbohydrates. In the recent outbreaks of beri-beri, particularly in the classic feeding experiment of Fraser and Stanton on coolies, as I have pointed out elsewhere, this factor is very manifest. There seems no unequivocal evidence that human beri-beri or the analogous polyneuritis gallinarum occurs in its absence. Maurer, Caspari and Moszkowski, Funk, Cooper, and Braddon and Cooper conjointly have all given convincing proof of this. Braddon and Cooper find that the physiological requirements of the experimental birds in the matter of vitamine vary directly with their carbohydrate consumption and not with the body-weight. Eijkman's early experiments with starvation rations of white rice foreshadowed this result.

In a recent paper (1918) Vedder re-states his view that beri-beri is a direct vitamine-starvation degeneration of the entire nervous system, and expresses the belief that the antineuritic vitamine enters into no association with carbohydrates.

He objects that in the experiments of Funk and of Braddon and Cooper the birds did not die of polyneuritis, but were killed by the effects of forced feeding with rice. Further, he claims to have produced polyneuritis in fowls by means of a carbohydrate-free diet, and to have shown that the addition of polished rice to such an avitaminic diet can both defer and prevent polyneuritis.

If these conclusions were sound, not only would they entail the rejection of the accumulated evidence quoted above, but they would also destroy the whole basis of the deficiency theory. For if the addition of polished rice to an avitaminic dietary can, by virtue of the improved carbohydrate-protein balance thus obtained, defer or prevent the development of polyneuritis, as he states is the case, it follows that vitamines are not essential constituents of a well-balanced diet, and the fabric of the deficiency theory falls to the ground.

It is scarcely surprising that a consideration of the experiments of Funk and of Braddon and Cooper affords no confirmation of the suggestion that death was due to forced feeding. The most that can be said is that in a few instances this mechanical factor may have hastened death in birds in whom there was clear evidence of polyneuritis in course of development. In the case of Funk's observations the objection does not apply at all. Moreover Vedder's own observations gave a similar result, for he records that his fowls were "too weak to stand up," while post mortem "a certain degree of degeneration was found by the Marchi method" in the nerves.

Of his meat, egg, and combined meat-rice and egg-rice feeding experiments it may briefly be recorded that they appear mutually contradictory in their results. If meat or egg rendered avitaminic by sterilisation at 120° C. produces polyneuritis, and if, as we know it does, polished rice also produces it, it is somewhat difficult to credit that a combination of the two "actually deferred the onset of polyneuritis," or in some cases even prevented it.

The only possible explanation of these discordant results is that the meat and egg did not produce polyneuritis, were not vitamine-free, and thus averted the onset of neuritis when combined with the polished rice. We know that egg is very rich in the active principle, and there is abundant reason for doubting whether heating for half an hour in an autoclave registering a temperature of 120° C. is adequate to destroy this completely.

The present state of our knowledge may therefore be summarised as follows: Beri-beri is dietary in origin in that it is associated with a physiologically inadequate diet. Yet the purely negative vitamine-starvation explanation of its pathogenesis, apart from the inadmissible nature of its contained assumption that a disease which clinico-pathologically is clearly an intoxication could be *solely and directly* caused by the mere *absence* of anything from the food, is inadequate in that it does not recognise the existence of the two factors essential to the production of the disease. These two factors are—(1) the absence of an unknown "accessory factor," or vitamine; and (2) the consumption of carbohydrates. The recognition of these renders the non-production of beri-beri by starvation comprehensible. The fundamental error in the vitamine theory is an untenable conception of the neuropathology of the disease. We may therefore state the pathogenesis of beri-beri thus: the use of certain foodstuffs (carbohydrates) in the absence of certain specific and unknown accessory factors or vitamines directly causes beri-beri, though in a manner as yet undetermined.

Infantile Beri-Beri.

In the study of infantile beri-beri we may regard the problem from another aspect. As in the adult, the great majority of observers who have considered the disease primarily from the clinico-pathological standpoint have regarded it as an intoxication due to an unknown poison ingested in the maternal milk.

From their accounts it manifests itself as an acute and rapidly fatal convulsive malady in previously healthy infants of from one to three months of age.

In the less frequent chronic form are seen obstinate vomiting, constipation, progressive pallor and weakness, evidence of cardiac disorder, oliguria, and equivocal signs of neuritis. Unless the child is removed from the breast death results. At autopsy are found generalised œdema, serous effusions, hypertrophy, and dilatation of the right heart, marked passive congestion of the organs, and some peripheral nerve degeneration.

Applied to this picture, Vedder's theory of a diffuse, slowly progressive nervous system degeneration due to vitamine starvation is acutely incongruous.

For according to this we have to assume that during the months of intrauterine life, when the nervous system is being built up in the fœtus, and after birth, when myelinisation and development are proceeding apace, there is a shortage of the vitamine necessary for the nutrition of the nervous system—a lack of "something essential for the growth and development of the child's nerves" (Andrews(1)).

In these hypothetical circumstances a well-nourished child is actually born with a normally functioning nervous system, and after some weeks of normal life is suddenly stricken with an acute illness and dies in a few hours, unless vitamine-containing elements are at once added to its feeds, when within a few days the child is normal again (4).

We may well ask how it is possible, in such conditions of intra-uterine life and development (for a vitamine-starved mother can no more supply the essential principle to her fœtus than to her suckling), that a nervous system of normal structure and function can be laid down and reach completion, and how it can be conceived that a nervous system suffering from the time of its inception in the womb from a consistent starvation of an "essential building stone" can be rendered normal within the compass of a single week by feeding the child with an extract of rice bran (4).

It is not necessary to labour the point, for it is obvious that in its application to infantile beri-beri in this form we have the *reductio ad absurdum* of the deficiency theory.

The objections urged by the disciples of the deficiency theory to the clinico-pathological indications that beri-beri is an intoxication seem chiefly based on the failure to find toxic bodies in polished rice. It is also implied that since deficiency of vitamine is the necessary condition of its production, therefore beri-beri cannot be an intoxication. Leaving this *non sequitur* for the moment, we may consider the more material objection that no chemical or microbic poison has ever been isolated from a beri-beri-producing rice, and that the milk of the beri-beric mother cannot contain a poison causing the disease in the suckling, since the simple addition of the antineuritic vitamine to the child's diet is sufficient to cure it, and because "it is most irrational to believe that such an extract of rice polishings could cure a child in a few days while it was still receiving the toxin which had originally produced the condition" (Vedder).

That the polished rice diet of the oriental, as eaten, contains no poison has been clearly established. Nevertheless, the intervention of a second factor in the causation of the disease, and the recognition of carbohydrates as constituting this, make it quite possible that we may yet be dealing with an intoxication.

I have suggested (11) that the problem may be considered in the following way: Since the antineuritic vitamine exercises its functions in association with carbohydrates, and since its absence from a dietary in which these predominate results in the profound pathological changes that we recognise as beri-beri, it is not unreasonable to suppose that in these circumstances carbohydrate metabolism may at some stage become disordered, and that this disorder results in the production of some toxic bye- or end-product which is the direct cause of beri-beri.

Such a view is necessarily speculative. It has, however, the following merits: it is compatible with the view associating beri-beri with dietary deficiency, it elucidates the hitherto obscure relationship of general starvation to vitamine deprivation, and it accounts for the failure of starvation to produce experimental beri-beri.

It recognises the two factors co-operating in the production of beri-beri, and assigns to each its proper place in the ætiology. It is compatible with the clinico-pathological phenomena of the disease, and finally, it reconciles the older toxæmic with the newer deficiency theory. In its present form the latter satisfies no one of these postulates and rejects both the true and the false of its predecessors. Like them, it reveals upon investigation its own modicum of error.

Having assigned a function to carbohydrates in the ætiology of beri-beri, it is interesting to speculate further from what is known of the nature of the antineuritic vitamine as to its mode of action.

The physical chemistry of this substance has not been fully investigated, but such facts as we possess indicate the possibility of its being an enzyme. It is relatively thermolabile, it is inactivated in the presence of alkalies, and it forms adsorption compounds. No element can be said to be an integral part of it. The more the active principle is purified, the fewer characteristic reactions does it show and the more unstable it becomes. It is now recognised that it has never been isolated. Whether it exists in the colloidial state or not is not known. Its resources—namely yeast, the eggs of animals, and the embryos of seeds—are fruitful sources of enzymes. Indeed, from yeast is derived in abundance the enzyme glyoxalase, which is thought to be essential to carbohydrate hydrolysis in the body.

Possibly the vitamine under discussion is a substance of this nature and stands in a comparable relation to carbohydrates. In its absence, it being a complex the body cannot synthesise; carbohydrate breakdown may be arrested at some point short of complete hydrolysis, leaving a toxic product in circulation.

In this respect infantile beri-beri presents no discordant phenomena. The abnormal toxic metabolite we have assumed to exist in the organism in adult beri-beri, passing to the infant in the maternal milk, produces the disease. The addition of the active principle in the rice bran extract will cause its complete hydrolysis, and render it innocuous in the child just as in the adult.

While it is infinitely more probable that a woman suffering from a mild chronic toxæmia can give birth to a normal child at full term than that one whose system lacks an essential constituent or food of nervous tissues to such an extent that her own nervous system is slowly degenerating should do so, yet it would be interesting to know the frequency of miscarriages and stillbirths among beri-beric mothers.

It is clear that much remains to be done before the deficiency diseases can be regarded as completely elucidated, and it is difficult to see how the purely negative vitamine-starvation theory can be correlated with the clinical and pathological phenomena of beri-beri. The physical and structural chemistry of the accessory factor involved, the exact nature of its association with carbohydrates and the part played by the latter still remain an unexplored field. The accessory food factor is the child of the physiological laboratory, and despite the advances made by the investigators of beri-beri, it is, in all probability, from the physiological chemist that we shall learn its nature and its mode of action.

In the meantime, a return to a more purely clinico-pathological outlook on beri-beri than is at present adopted by students of the disease should prove corrective of a tendency, distinctly noticeable in many writings on the subject, to adapt ascertained phenomena of the disease to the procrustean bed of what is at best but an immature theory.

REFERENCES.

(1) ANDREWS, V. L.—"Infantile Beri-beri," 'Philippine Journ. Science,' 1912, vii, p. 67.

(2) BRADDON and COOPER.—"The Influence of Metabolic Factors in Beri-beri," 'Journ. Hygiene,' 1914, xiv, p. 331.

(3) CHAMBERLAIN and VEDDER.—"A Contribution to the Ætiology of Beri-beri," 'Philippine Journ. Science,' 1911, vi, p. 251.

(4) CHAMBERLAIN and VEDDER.—"The Cure of Infantile Beri-beri by the Administration to the Infant of an Extract of Rice Polishings, and the bearing thereof on the Ætiology of Beri-beri," 'Bull. Manila Med. Soc.,' 1912, iv, p. 26.

(5) CHICK and HUME.—"The Distribution among Foodstuffs (especially those Suitable for the Rationing of Armies) of the Substances required for the Prevention of (*a*) Beri-beri and (*b*) Scurvy," 'Trans. Soc. Trop. Med. and Hygiene,' 1917, xx, p. 141.

(6) FRASER and STANTON.—"The Ætiology of Beri-beri," 'Studies from the Institute Medical Research, Federated Malay States,' 1911, No. 12.

(7) HAMILTON WRIGHT.—"On the Classification and Pathology of Beri-beri," *ibid.*, 1903, ii, No. 2.

(8) Lhermitte.—"Les lésions cérébrales de la polynévrite avitaminique," 'Rev. Neurol.,' 1916, xxiii, p. 6.

(9) Vedder.—"Beri-beri," 1913. Bale, Sons & Danielsson, London.

(10) Vedder.—"Is the Neuritis preventing Vitamine concerned in Carbohydrate Metabolism?" 'Journ. Hygiene,' 1918, xvii, p. 1.

(11) Walshe.—"On the Deficiency Theory of the Origin of Beri-beri in the Light of Clinical and Experimental Observations on the Disease," 'Quart. Journ. Med.,' 1918, xi, p. 320.

ON ABNORMAL NAUGHTINESS IN NORMAL CHILDREN.

By John Thomson, M.D., F.R.C.P.Edin.,

Consulting Physician to the Royal Edinburgh Hospital for Sick Children.

Occasionally a child of perhaps 3 or 4 years or older is brought to the doctor because he is becoming so persistently and enterprisingly naughty that his parents have begun to doubt whether he is altogether right in his mind. He is generally found to be healthy and attractive-looking and above the average in intelligence as well as in force of character, although we are given such a bad account of his conduct. We are told that the child is constantly doing wilful mischief—throwing china out of the window, knocking over flower-glasses, scattering beads or other things that are difficult to pick up again, breaking in upon other children's games so as to spoil their play, locking doors and throwing away the keys, pulling out drawers and emptying their contents on the floor, setting fire to anything that will burn, playing unkind tricks on the cat, or even upsetting the baby out of the cradle. The account of the child's misdoings is rather amusing, and one notices that, in spite of the anxiety which has occasioned the consultation, the parents describe them with just a touch of pride, and a feeling that not every child would have the energy and cleverness to be so entertainingly naughty.

When we inquire into the treatment that has been tried, we usually find that, until recently, the child's mischief has been laughed at and rather encouraged. Since the parents have thought more seriously about the matter, however, the young culprit has been subjected to a course of severe corporal punishments, reprimands and expostulations; and it has been attempted to make him ashamed of himself by relating his misdeeds to friends and neighbours in his presence with severe comments. These measures have not caused the slightest improvement.

On considering the child's conduct, we see that the things he has been doing were calculated to give him little or no pleasure in themselves, yet they were a very real source of gratification because of the sensation they produced among his seniors. The effect of his misdeeds in disturbing his parents is, then, the source of their attractiveness to him ; and so great is the child's enjoyment of this that the beatings and other unpleasant experiences that followed have counted for nothing against it. They have been taken indeed merely as evidence of the greatness of the impression he has succeeded in producing.

What is wrong with the child in such cases is a morbid exaggeration and perversion of the natural desire which all children feel for notice by their elders. He craves to be the most noticed person in the household, and the obvious thóugh unexpressed admiration provoked by his boldness and resource is all the encouragement he needs to encourage him to continue.

It is, I think, clear that these cases of abnormal naughtiness in normal children are of essentially the same nature as those of "moral imbecility" in children who are in some degree mentally defective. The treatment of the two sets of cases is the same, but the mental defect in the latter group makes their treatment at home much more difficult, if not impossible.

The proper lines of treatment are clear enough, and when carried out consistently and thoroughly are rapidly and completely successful. They may be summarised as follows: (1) All severe corporal punishment must be stopped—it never does any good. (2) Nobody must ever appear shocked, amused or even surprised at anything the child does. (3) His misdeeds are never to be alluded to, much less described, in his presence ; and, lastly, he should be noticed and encouraged in every way when he is good, and altogether ignored when he is naughty.

CASE OF MUSCULAR SPASM IN A CHILD.*

By Reginald C. Jewesbury, M.D., F.R.C.P.,

Assistant Physician to the Victoria Hospital for Children and Charing Cross Hospital.

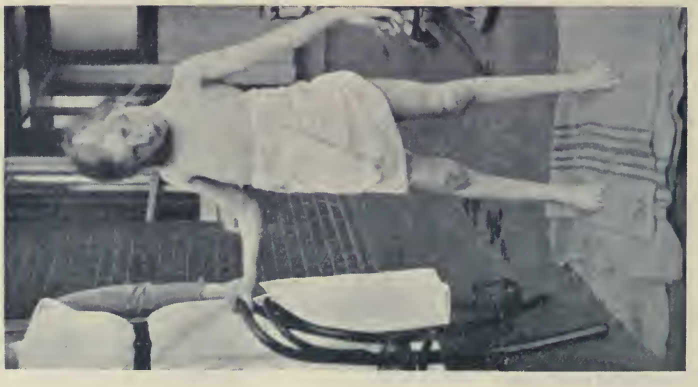
With Remarks by F. Parkes Weber, M.D., F.R.C.P.

The rarity of the following case is sufficient to warrant its being placed on record:

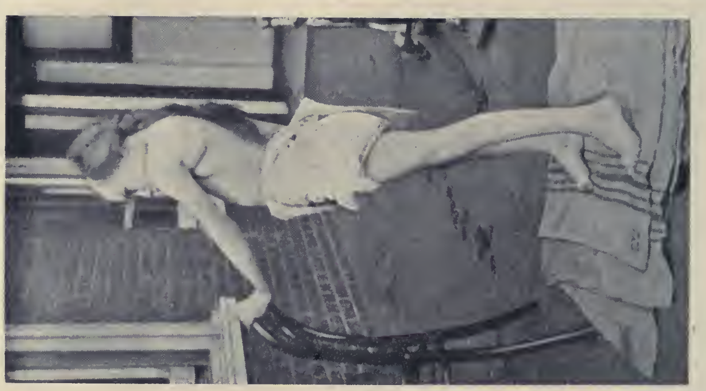
The child, a girl, aged 9 years, of British nationality, had enjoyed perfect health until she was 7 years of age, when she began to suffer from weakness and wasting in the muscles of both legs. This condition gradually progressed, and she developed such a marked degree

---

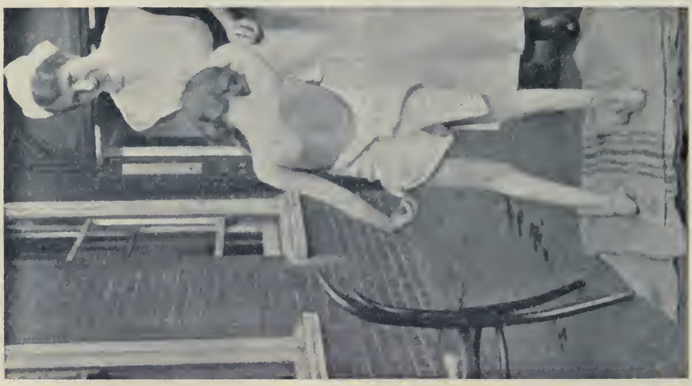
* The case was shown at the Section on the Study of Disease in Children of the Royal Society of Medicine on May the 24th, 1918.



Showing torticollis.



Showing talipes and spasm of shoulder muscles.



Spasm of left arm and legs.

of talipes equino-varus that double tenotomy of the tendo Achillis was performed at a provincial hospital. After this she was able to walk better for a time, but the condition gradually recurred and the legs became very stiff when she attempted to use them, and walking became exceedingly difficult. Subsequently, about eighteen months after the legs began to be affected, she developed a similar loss of power with stiffness in the muscles of both arms and hands, and also in the muscles of the neck and spine. The child was brought up to my out-patients at the Victoria Hospital in April last, about two years after the onset of her complaint.

On examination she was a healthy-looking girl, normally developed and highly intelligent. There was no history of any previous illness, with the exception of measles. Both her parents were English; the father had suffered from asthma and died of pneumonia. There were three other children in the family and all quite healthy. The patient had lived in a healthy country place all her life.

There was marked weakness and wasting of the muscles of both legs with a double talipes equino-varus; she was unable to put her heels to the ground, and walked on tip-toe with curious jerky movements of the legs but not a typical spastic gait. Both arms were similarly affected, but less so than the legs. Any attempt to carry out a definite movement with the arms was made in a jerky way, rather like a child suffering from chorea. In grasping any object all the voluntary muscles of the body were thrown into a state of spasm. She appeared to have a certain amount of control over this spasm, and it was always much more marked when she was at all excited or agitated. She also had a persistent torticollis with a certain amount of spasm of the spinal muscles. The facial muscles were unaffected. No tremors or athetosis were present.

The reflexes, both superficial and deep, were all normal; the knee-jerks were only difficult to obtain when the muscles were in a state of spasm. The plantar reflex was flexor on both sides. The cranial nerves were normal. Sensation was unaffected.

The blood gave a negative Wassermann test.

The photographs give some idea of the condition described.

The child remained in hospital for about three months, and was treated with massage without any appreciable improvement.

Remarks by Dr. Parkes Weber.

The case seems to be an example—perhaps the first recorded in England—of "Dystonia musculorum deformans" (Oppenheim) or "progressive torsion spasm of childhood." Other names have been given to the disease by various observers, such as "toxic torsion neurosis," "general tic with toxic changes," "tortipelvis." Ziehen's account dates from 1910. Opinions have differed as to whether the condition is organic or functional. H. Oppenheim, however, who described the disease in 1911 as "a peculiar spasm-like disease of childhood and youth," and suggested as a name for it Dysbasia lordotica progressiva or Dystonia musculorum progressiva, regarded it as an organic affection closely allied to athetosis.

Like paralysis agitans, Huntington's chorea, progressiva athetosis, pseudo-sclerosis, and Kinnier Wilson's progressive lenticular degeneration, it has lately been attributed to disease of the lenticular nucleus. It runs at first a chronic progressive course, with intermissions and even periods of improvement, and may then come to a standstill and remain stationary, other portions of the nervous system remaining unaffected. Though essentially a disease of childhood, it has appeared as late as the seventeenth year. It is characterised by a peculiar mixture of hypertonus and hypotonus of the affected muscles. The face and muscles of articulation are usually not affected except in late stages, when there is involvement of the muscles of the neck. Amongst the earliest symptoms, or the earliest symptom, is partial or total loss of function in one or more extremities—usually the lower extremities—due to faulty tonus innervation. Talipes tends to persist. The movements of the affected parts are spasmodic but not truly athetotic. Psychical symptoms may occur, but the mental condition is generally normal. As yet, the disease has been described only in Russian, Polish, and Galician Hebrew families, but the present case seems, in this respect, to be an exception.

LITERATURE.

CLIMENKO, H.—"Dystonia musculorum deformans," 'Med. Record,' New York, 1914, lxxxvi. p. 1000 (with illustrations).

COVIAT, I. H.—'Boston Med. and Surg. Journ.,' 1916, clxxv, p. 383.

HUNT, J. R.—"The Progressive Torsion Spasm of Childhood," 'Journ. Amer. Med. Assoc.,' 1916, lxvii, p. 1430 (with illustrations and references).

MAAS, O.—"Zur Kenntnis des Verlaufs der Dystonia musculorum deformans," 'Neurol. Zentralbl.,' 1918, xxxvii.

OPPENHEIM, H.—*Ibid.*, 1911, xxx, p. 1090.

SPILLER, W. G.—"The Family Form of Pseudo-sclerosis and Other Conditions attributed to the Lenticular Nucleus," 'Journ. Nerv. and Ment. Dis.,' 1916, xliii, p. 23.

Royal Society of Medicine.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Friday, April the 26th, 1918.

DR. H. MORLEY FLETCHER, *President, in the Chair.*

Case for Diagnosis.—Dr. H. C. CAMERON and Mr. W. H. TRETHOWAN. —The patient, a boy, aged 5 years, was born at full term and was breast-fed. There were six children in the family. All the others were in good health. There had been no deaths and no miscarriages. The father and mother were healthy. Some difference between the two sides of the body were noticed at birth. The left arm and leg were considerably shorter than the right. The boy used both hands and feet, and was able to walk and run, though with some limp, on account of genu valgum on the left side. The phalanges of the left hand were shortened, and were broader and flatter than those of the right. The little finger showed a permanent flexion which could not be reduced. The right arm and leg were apparently normal and well formed. The right little finger only showed a slight deformity in its proximal phalange. There appeared to be no abnormality of the nervous and vascular supply to the affected limbs. The Wassermann test was negative. No other abnormalities were found. X-ray examination showed surprisingly advanced changes in the bones of the affected limbs, especially in the femur and hand. The epiphyses were normal throughout. The diaphysis of the phalanges was distended into a mushroom-shaped expansion, with its convex surface towards the distal end of the bone. The metatarsals showed a similar expansion. The outline of the femur was in many places indistinct, and the shadow was mottled by irregular areas of lighter colour. The only abnormality seen in the skiagram on the right side of the body was in the little finger, where changes similar but of earlier development were seen. No abnormality of the skull, ribs, scapula, or pelvic bones was found.

Dr. PARKES WEBER regarded the case as an atypical one of multiple enchondromata.

Perithelioma of the Orbit.—Mr. H. R. JEREMY. A girl, aged 4 years, was admitted to hospital on April the 14th, 1917, with the diagnosis of "dermoid of orbit." The right eye had been growing out during the past three months, and the child had screamed with pain in the eye, forehead, and temple. No history of injury or vomiting. Family history good. On admission the right eye was proptosed and displaced downward and outward. Muscular movements of the eye were restricted upwards and inwards. The conjunctival vessels were congested, and there was chemosis below. The cornea was clear, the iris reacted, and the pupils were equal. Examination of the fundus showed that the vessels were full and tortuous, the disc clean, and of normal colour. Under the upper and inner margin of the orbit a soft lobalised tumour could be felt, not adherent to skin, and movable from side to side, but attached deeply. The surface of the tumour was smooth and elastic. There were no enlarged glands, and there was nothing abnormal in the chest or abdomen.

Operation.—A 2 in. incision through the base of the upper lid exposed a soft white tumour, which was encapsulated; it consisted of two lobes united by a stalk, which was attached to the optic nerve behind. The stalk was ligatured close to the nerve, and the two lobes removed. The tumour was friable and ruptured during removal. There were slight adhesions between the capsule and surrounding structures. The wound was dried and closed with silkworm sutures. The child contracted scarlet fever during the following week and was removed to a fever hospital. She was readmitted two months later with recurrence of the tumour, which had now forced the eye so far forwards that it could not be covered by the lids. As the result of exposure the cornea had ulcerated and ruptured and the iris had prolapsed through the corneal wound. The surface of the tumour was ulcerating. As it was useless to try to save the eye, Mr. Jeremy removed it and cleared out the entire contents of the orbit, including the periosteum. The child had remained well since the operation and had increased in weight. Section of the tumour showed it to be a perithelioma.

Discussion on Botulism.—Dr. H. Morley Fletcher said that he had recently seen two cases resembling the recently recorded adult cases of botulism. The first case was in a girl, aged 2 years, who ten days previously to being seen by Dr. Morley Fletcher had been getting very sleepy. She would fall asleep even over her meals, and it became increasingly difficult to rouse her. The onset was quite gradual, and she did not suffer in any way. On admission to hospital, in addition to her drowsiness, she presented double ptosis and left external strabismus. The right pupil was larger than the left. The reflexes were normal, and there was no fever. Early tuberculous meningitis was diagnosed. Lumbar puncture showed no increase in cells beyond what a slight admixture of blood would account for. The somnolence gradually passed off in about a fortnight after admission and the ptosis and squint disappeared. The second case, which occurred in a boy, aged 3 years, was almost identical. He had a history of falling asleep at meals and being in a very drowsy condition. Like the girl, he was well nourished, and but for the sleepiness seemed well. He had ptosis and a slight squint and his condition cleared up in about a fortnight.

Dr. J. D. Rolleston suggested polioencephalitis as an alternative diagnosis. Judging from the literature, it was not so much the cerebrum as the pons and medulla which were affected in botulism, and it was possible that the two cases were due to the unknown virus of encephalitis.

Dr. J. Porter Parkinson and the President subsequently described cases in adults.

Friday, May the 24th, 1918.

A Case of Anæmia with Unusual Blood-count.—Dr. J. Porter Parkinson.—A boy, aged 9 years, was admitted to hospital on March the 24th. Six weeks previously bruising all over the arms, shins, and back was noticed, and, a week later, a rash resembling flea-bites had appeared on the body, and had been coming out at intervals since. For a month he had been bleeding at the mouth, the lips were painful and swollen, and the gums sore. For a fortnight he had had severe headache, and was noticed to be rather pale and breathless. He had had scarlet fever at 18 months, "kidney trouble and dropsy" a year later, measles and whooping-cough when 6 years old, but no other illness. There was one other child, aged 3 years, who was healthy. No family history of hæmophilia. On admission he was very pale and his face rather puffy. There was no rash except a few petechiæ on the feet. The gums were not swollen, but were bleeding slightly. The tonsils were enlarged, and a few glands could be felt in the neck. The lungs and heart were normal except for a pulmonary hæmic murmur. The liver and spleen appeared to be of nornal size. The urine contained neither albumin nor sugar. The temperature for the first fortnight rose to 99° F. in the evening, but in the last week had risen to 100° F. most evenings. The blood-count on April the 25th was: Red cells, 1,260,000; leucocytes, 800; Hb., 20 per cent.; colour index, 0·9; polymorphonuclears, 29 per cent.; lymphocytes, 72·5 per cent.; eosinophils, 0·5 per cent. No nucleated red corpuscles; no marrow-cells. The red corpuscles showed marked alteration in size and shape. May the 6th: Red cells, 1,088,000; leucocytes, 1200; Hb., 20 per cent.; colour index, 1; polymorphonuclears, 18 per cent.; lymphocytes, 76 per cent.; hyalines, 5 per cent.; eosinophils, 1 per cent. The red cells showed marked differences in size and slight differences in shape. No nucleated forms. The lymphocytes consisted almost entirely of small cells.

The cause of the profound anæmia was obscure. There was no reason to suspect scurvy, hæmophilia, tuberculosis, or syphilis. The Wassermann reaction in the blood was definitely negative. Lead-poisoning was unlikely. There was no evidence of intestinal parasites. The blood showed marked leukopenia, due almost entirely to diminution in the number of the polymorphonuclears, the lymphocytes being in relative excess but actually about normal in number.

Ophthalmoscopic examination showed slight optic neuritis and numerous hæmorrhages into both retinæ.

Dr. PARKES WEBER regarded the case as a typical example of chronic aplastic anæmia, in which condition the red bone-marrow was the only tissue at fault. There was a deficiency of the blood-cells which were formed in the red bone-marrow—viz. the red corpuscles and the polymorphonuclear leucocytes. Practically nothing was known as to the cause of that type of case.

Case of Muscle Spasm.—Dr. R. C. JEWESBURY (*vide* p. 269).

Abstracts from Current Literature.

Diseases of the Alimentary Canal.

Congenital paramedian sinuses of lower lip ('*Arch. of Ped.*,' 1917, XXXIV, *p.* 924).—**N. Toomey** reviews the literature, including the cases of Clogg (*v.* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1907, IV, *p.* 52), and Kahn (*ibid.*, 1913, X, *p.* 127), and reports a case in a female infant, aged 8 months, with complete cleft of hard and soft palate: 3 mm. on each side of the median line of the lip, and 6 mm. orally from the muco-cutaneous border was a sinus, 5 mm. deep, which, when squeezed, gave out a small drop of clear mucus. J. D. ROLLESTON.

Perlèche (*'Journ. Amer. Med. Assoc.,'* 1917, LXIX, *p.* 192).—**J. E. Lane** describes perlèche as a superficial—not an ulcerative—streptococcic affection of the labial commissures, which is pre-eminently a disease of infancy and childhood. The epithelium becomes smooth, whitish, and later macerated, when small transverse fissures appear. It is not impetigo, but may be associated with it, and is not to be confused with herpes labialis, eczema, stomatitis, or syphilis, though it closely resembles a mucous patch. The disease is highly contagious, but generally can be promptly cured by painting the lesions with 10 per cent solution of silver nitrate, diluted tincture of iodine, or copper sulphate. If these fail a 5 per cent. solution of chromic acid is efficient.

T. R. WHIPHAM.

Perlèche: its bacteriology, symptoms and treatment in 223 cases (*'Arch. of Ped.,'* 1917, XXXIV, *p.* 274).—**A. L. Smith.**—Perlèche is an infection of the labial commissures, manifesting itself first by a maceration of the epithelium, secondly by a degeneration of the tissue, and thirdly by the formation of shallow ulcers and cracks. It is undoubtedly contagious, and is essentially a disease of children. An anaërobic streptococcus was isolated in 135 cases at an early stage of the disease. Twenty-six times it was found in combination with the *Staphylococcus pyogenes aureus*, 7 times with the *Staphylococcus albus*, and 14 times with the *Streptococcus pyogenes*. In the later stage the anaërobic bacillus was not found at all, but the *Staphylococcus pyogenes aureus* was found alone 36 times, and was associated 3 times with the *Streptococcus hæmolyticus*. Perlèche is more prevalent during the colder months, 73 per cent. of the cases occurring in the winter. It seems to be secondary to abnormal conditions about the oral and nasal cavities which cause an increased flow of saliva. It is usually bilateral. It must be distinguished from impetigo, which is more wide-spread and does not begin at the corners of the mouth, and from syphilis, in which the lesions are deeper and more wide-spread, are copper-coloured, and usually affect the mucous membrane inside the mouth, where perlèche rarely appears. The Wassermann and luetin tests will usually decide. Treatment consists in painting the lesions with 50 per cent. silver nitrate solution, and when dry applying Lassar's zinc oxide paste. If the lesions do not disappear in a few days, spirits of camphor or alcohol are applied. If the flow of saliva does not decrease in amount, tincture of belladonna should be given internally until the physiological limit is reached (*cf.* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1908, V, *p.* 459).

J. D. ROLLESTON.

Rumination in the first year of life (*'Amer. Journ. Dis. Child.,'* 1917, XIV, *p.* 210).—**C. G. Grulee** reviews the literature, and records six cases observed in a period of three years, including that of Stransky (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1916, XIII, *p.* 246). He is therefore inclined to think the condition is much more frequent than is ordinarily supposed, and that it can be explained on the basis of a hyperexcitability of the involuntary circular muscles as suggested by Hess (*ibid.*, 1915, XII, *p.* 214). The cases may be divided into two types—the mild and the severe. In the mild types the rumination occurs only once or twice a day, and is not accompanied by any definite loss of food. In severe cases the attacks are very frequent and a large proportion of food may be lost. Probably about 50 per cent. of the severe cases die. Treatment was directed along three lines: (1) Drug treatment: Bromides and other sedatives were given, as well as cocaine and other local sedatives for the stomach. (2) Dietetic treatment: Thick vegetable *purée* or cereal gruel was of value in some cases, but in others failed. (3) Psychical treatment: All excitement should be avoided, the child should be in screened surroundings, but after food should have its attention diverted by playthings. J. D. Rolleston.

Pylorospasm and congenital pyloric stenosis ('*Amer. Journ. Dis. Child.*,' 1918, xv, *p.* 351).—**J. Foote** states that probably the earliest reported case of this condition appears in a text-book published by the English pædiatrist, George Armstrong, in 1777, in his text-book entitled 'An Account of the Diseases most incident to Children till the Age of Puberty.' Clinical and post-mortem findings, a typical case-history and a family history of three similar cases led Armstrong to conclude that the child aged 3 weeks, which he had treated for "watery gripes," died from "spasm of the pylorus." J. D. Rolleston.

Infantile pyloric stenosis ('*New York Med. Journ.*,' 1917, cv, *p.* 1251). —**J. Epstein** considers the view that this is a congenital malformation more likely than that it is acquired, as the latter would not account for the unusual rapidity of the hypertrophy. In addition, there is often a spasm of the pylorus which tightens the opening still further. The symptoms usually begin between the third and sixth week of life, with forcible, projectile vomiting and steady loss of weight. There is constipation and diminished amount of urine. Gastric peristalsis is usually seen after a meal, and the pylorus may be felt as a small, hard mass. Pylorospasm may be hard to differentiate, but it usually occurs in older children, and there is frequently a history of neurosis in the family. Medical treatment should always be tried first, consisting of proper feeding and lavage. Opium, atropine, and alkalies have been recommended. In surgery Rammstedt's operation is giving the best results, which consists in making an incision along the length of the pylorus down to the mucous membrane.

J. Porter Parkinson.

Congenital atresia of small intestine ('*Arch. of Ped.*,' 1918, xxxv, *p.* 45).—**F. V. Bogert,** who had previously published three cases of this condition (*v.* British Journal of Children's Diseases, 1917, xiv, *p.* 207), now adds a fourth. The baby was a well-developed child, born at full term. There had been three previous pregnancies, all resulting in healthy children. The abdomen became distended, and frequent vomiting occurred on the evening of the first day. The vomit became fæcal on the third day. Repeated enemata resulted in several small mucous curds and a large mucous cast of the bowel. Death took place on the fourth day. The necropsy showed complete obstruction of the small bowel ending abruptly 25 in. above the ileo-cæcal valve. There was complete absence of gut for about ½ in., and both small and large bowel below were poorly developed. No fibrous cord intervened between the two portions of gut.

J. D. Rolleston.

Congenital intestinal obstruction ('*Amer. Journ. Dis. Child.*,' 1918, xv, *p.* 354).—**A. V. StGeorge** reviews the literature, and reports a case in a female child, the second of twins, who died on the seventh day of life with symptoms of intestinal obstruction and hæmorrhagic disease of the newborn. The necropsy showed complete stricture of the duodenum, the lumen of which was replaced by fibrous tissue and a stenosis 20 cm.

below in the jejunum, the lumen of which was markedly diminished in calibre and occupied by a small blood-clot. J. D. ROLLESTON.

The big, flabby belly in infancy (*'Med. Press,'* 1918, I, *p.* 224).—**Marfan** calls attention to the big, flabby belly in infancy which is generally associated with rickets. In some instances the symptoms of rickets strike the eye, but in others they have to be looked for. Diagnosis will, however, not be complete until the cause—toxic or infective—of the rickets is established. In most cases hereditary syphilis, or dyspepsia, or tuberculosis is responsible, but to these must be added prolonged suppuration, eczema, etc., subacute recurrent broncho-pneumonia (as in whooping-cough), malaria, and diabetes mellitus. The big, flabby belly does not disappear for many months, even under the influence of appropriate treatment, because it follows the course of the osseous lesions. When the latter disappear then the belly resumes its normal shape. J. ALLAN.

Intestinal atony in children (*'New York State Journ. Med.,'* 1918, XVIII, *p.* 1).—**F. B. Turck** discusses the mechanism of production, and points out that there are a number of factors involved, as: (1) Increased permeability of the gastro-intestinal tract; (2) agencies responsible for this increased permeability; (3) a previous sensitisation of the muscle-cells, rendering them susceptible to anaphylactic reaction; (4) fatigue; and (5) tension. Other pathological states also exert an influence. In the treatment of severe acute cases where there is evidence of stasis and death is impending, the first indication is for heat stimulation, such as a hot sitz bath, as hot as can well be borne, and, in addition, gastric and colonic lavage with bicarbonate solution given at a temperature of 110–118° F. The lavage may with advantage be given continuously in severe cases. Starvation must be enforced and milk avoided by all means. One may administer subcutaneous injections of salt solution or of sugar in solution, just sufficient to create stimulation but not to burden the heart. Transfusions of blood are indicated in certain cases. After the acute stage has passed, feeding may be resumed gradually. Corn-starch gruel is highly satisfactory, but it is important to remember that all fats must be avoided. In the treatment of moderately severe or chronic cases gastric or colonic lavage should hold an important place, and should be given in connection with gentle pneumatic gymnastics of the colon. It is important to lengthen the period between feedings as much as possible, so as to afford rest to the gastric and intestinal musculature. Meat extractives should be eschewed. In older children extract-free meat, which should also be fat-free, may be allowed in moderation. On recovery the child may be given neutral fats in the form of fresh butter, olive or cotton-seed oil. Autogenous vaccines are beneficial in chronic cases. Drug treatment consists in the administration of the insoluble colloids, such as Irish moss and bismuth, or of fine bran and charcoal. For the treatment of acidosis mixed alkalis are indicated.

J. ALLAN.

Acute ileo-colitis in infancy (*'Arch. of Ped.,'* 1917, XXXIV, *p.* 504).—**J. Aikman** writes on 54 cases of ileo-colitis, 27 of which were under six months of age, 8 between six and twelve, and 12 between one and two. Only 4 were breast-fed. Insanitary home conditions, poverty, and general carelessness in food preparation were ætiological factors. Of the 27 children under six months, 13, or nearly half, died, while the total mortality was

33·3 per cent. The duration of the disease averaged fifteen days. The stools were mostly green, liquid, offensive, and all but 11 contained mucus. Blood was found in 28 cases; vomiting was present in 30 cases, and was very marked in one-fifth of the cases. Convulsions occurred in only 4 cases, all of which died. The temperature varied, but in 29 cases was never above 101° F. The physical signs were merely the same as those found in a case of malnutrition. Treatment: If the diarrhœa has been present for a short time, 1 or 2 drachms of castor oil should be given. If there is vomiting, calomel in $\frac{1}{10}$-gr. doses should be given. Milk should be omitted from the diet and cereal water with or without sugar given. Bismuth subnitrate in 10-gr. doses may be of value. Hot applications to the abdomen and hot mustard baths are frequently used. Subcutaneous injections of normal saline or sodium bicarbonate solution replace the loss of fluid. Local treatment consists in high rectal irrigations of a gallon or more of normal saline or a 1 per cent. sodium bicarbonate solution once or twice daily. J. D. Rolleston.

The cœliac disease (*'Lancet,'* 1918, ii, *pp.* 163, 193, 227).—**G. F. Still** states that 17 cases occurred among 14,800 admissions to the Great Ormond Street Hospital. It is commoner in private and consultant practice, and therefore in all probability does not depend on poverty or defective sanitation. It is commoner among girls than among boys. In the present series of 41 as many as 30 were females. The onset is usually between the ages of 9 months and 2 years, and lasts for months or years. Clinically, the patients are emaciated, with plump faces and distended abdomen, much behindhand in general development, and afflicted with looseness of the bowels complicated by exacerbations of diarrhœa. The stools resemble porridge, are acid, rancid, and float in water. As the disease progresses, the stools become pale, greenish or grey. Vomiting, pain or fever are usually absent. The urine is normal. Pallor is due to a deficiency of hæmoglobin from failure of fat absorption. Although there is marked arrest of growth in stature as well as weight, there is no abnormality of the formed bone and no sign of rickets. The voice is of a high pitch and very limited compass—a striking contrast to the gruff voice of cretinism and mongolism. Dentition is delayed, but not markedly. There is great muscular debility; one case was unable to walk at 6 years old. Mentally the children are normal, but are slow in response. They are chiefly interested in their necessarily meagre diet. Œdema is the commonest complication, and is situated over hands, legs, feet, and lower eyelids. Occasionally there is ascites. Purpura was noted in several cases. Scurvy occurred in 5 cases. The disease strikingly resembles sprue; even chronic glossitis may occur in the cœliac disease. Only 5 of the cases in the 41 recovered completely and passed normal motions; on the other hand, only 6 died, and in 2 of these death was due to accidental complications. Pathologically there is marked thickening of the whole of the walls of the large and small intestine and stomach with patches of acute congestion of the mucosa. Microscopically there is marked round-cell infiltration. In 6 cases one or other or all of the types of dysenteric bacilli known as Flexner, Shiga and Y were discovered, either actually or by agglutination tests. Organisms for which a causal relation is claimed by Herter are known as the *B. bifidus* and *B. infantilis*. The bacteriological findings are not, however, conclusive. The stools were in three cases found to contain 26·9, 73·1, and 42·5 percentage of fat as compared with a normal of 10–25 per cent. There is evidence in some cases of a failure of the fat-splitting ferments of the bile. The pancreatic function was normal in the majority of cases investigated by Sahli's, Loewi's and Stock's tests, and there is no failure in the splitting of fats. There is, therefore, a failure of fat absorption due perhaps to a catarrhal condition. The Wassermann reaction was tried in 6 cases with a positive result in 3. In none of these were there any symptoms of congenital disease, and in none were the sera of the relatives positive. The œdema is due in part to feeble circulation and hydræmia and in part to toxic absorption from the bowels. Tetany is also due to the same cause and not to increased elimination of calcium salts. With regard to the arrest of growth it is pointed out that increase in weight does not proceed *pari passu* with increase in height. It may be due to deficiency of fat absorption, as rats fed on lean, raw meat failed to grow. It is doubtful if this is due to deficiency of calcium, because in cretins exhibition of thyroid causes rapid growth, although there is relative deficiency of calcium salts. The fats must be reduced to a minimum. Dried milk is more easily digested than ordinary cow's milk. Cases do well on human milk, and no cases of cœliac disease have occurred when infants are being fed on the breast. Asses' milk is well borne, and this depends on some other factor than low percentage of fat, as babies with cœliac disease do not do well on cow's whey. The carbohydrate offered is not well tolerated, but that of lentils, commercially known as "revalenta," is generally suitable. Chicken broth, veal broth and sweet jellies complete the meagre diet. On such a diet as outlined above scurvy developed in 5 cases, which can be prevented by the addition of mashed potatoes. In spite of this fat-free diet there is marked immunity from rickets. Inunction of fats (*per cutem*) has been tried with doubtful results. Glycerine extract of pancreatic juice and the commercial products known as "trypsogen" and "holadin" and ox-gall were also exhibited with negative results. The most effective drugs are 5 minims of castor oil or 2 or 3 gr. of salol, which lessen the number of stools and improve their quality. Silver nitrate in doses of $\frac{1}{6}$ to $\frac{1}{4}$ gr. is also of use. Chromo-santonin in 2 gr. doses in gelatine capsules was also helpful. Iodoform was given with markedly beneficial effects in one case. As a considerable proportion of the cases gave evidence of intestinal infection with a dysentery bacillus an autogenous vaccine was tried, with temporary improvement in 2 cases. In 3 thyroid extract was tried, but without any result. Polyglandin was tried in a convalescent case, with striking and sudden increase in growth. CHRISTOPHER ROLLESTON.

Surgery.

Burns and scalds as a cause of child disablement and death ('*Dublin Journ. Med. Science,*' 1917, II, *p.* 248).—**Sir John Moore** read a paper on this subject at a meeting of the Royal Academy of Medicine in Ireland, Section of State Medicine. He submitted a statement, prepared for him by the Registrar-General for Ireland, showing the number of deaths from burns or scalds registered in the Dublin registration area during each of the five years 1912–1916. The total deaths from these causes of persons of all ages were 227, including 123 deaths of children under 5 years, the latter figure representing 54·2 per cent. of all these 227 deaths. Something more is wanted at coroners' inquests into fatal cases of burns and scalds among young children than a mere colourless verdict of "accidental death." The laws on the subject should be put into action. J. ALLAN.

Adenoma of the umbilicus (*'Brit. Med. Journ.,'* 1918, I, *p.* 564).—**C. H. Whiteford** describes a case in a boy, aged 5 years, who came under observation because of a red, smooth, oval tumour at the lower border of the umbilicus. The tumour was diagnosed to be an adenoma. It was excised, and the pathological report confirmed the diagnosis. The condition is one of the abnormalities which result from incomplete obliteration of the vitelline duct. J. ALLAN.

Congenital tumour in the fronto-nasal region (*'Edin. Med. Journ.,'* 1917, II, *p.* 383).—**D. M. Greig** describes a case in a male infant, aged 2 years. The child had also a large, double hare-lip and cleft palate, the cleft being much wider on the left than on the right side. Dependent from the region of the left fronto-nasal suture was a pyriform, thin-skinned, reddish tumour, 1½ in. in length. It had a translucent appearance, its surface was glazed and smooth, and it was of a somewhat soft consistency. The tumour could not be diminished by pressure, and there was no evidence that it communicated with the interior of the cranium. Under a general anæsthetic it was easily removed. The pathologist reported it to be "a congenital tumour composed of fibrous tissue, unstriped muscle, etc."

J. ALLAN.

Congenital Dupuytren's contraction of the fingers (*'Edin. Med. Journ.,'* 1917, II, *p.* 384).—**D. M. Greig** records a case in a male infant, aged 5 weeks, who was breast-fed, well formed and well developed, and of good colour. The mother had noticed since birth a difficulty in getting the child's palms washed, in that she was unable to get the child's fingers extended. After careful examination under a general anæsthetic the author came to the conclusion that the condition was apparently not a tendinous affection, and there was no evidence of any abnormality in the growth or peculiarity of innervation of the muscles. It appeared to involve the skin, subcutaneous and deep fascia, and to be similar to the condition known as Dupuytren's contraction in the adult. J. ALLAN.

Multiple cartilaginous exostoses (*'Arch. of Ped.,'* 1917, XXXIV, *p.* 338).—**P. M. Stimson** reports a case in a boy, aged 9½ years, who was prematurely born at the time of his mother's menopause and following a severe nephritis during the last two months of her pregnancy. Irregularities in his bones were first noticed at the age of 4 years, since when they had grown slowly and become more numerous, finally involving all the long bones, the scapulæ, clavicles, and ilia. His extremities also showed a marked distal hypotonus. His mental age was that of a child aged 5 years, and the development of his carpal bones and some of his ossification centres about that of a child of 6 years. His mother and an older sister also had exostoses. J. D. ROLLESTON.

A case of multiple cartilaginous exostoses (*'Arch. Bras. de Med.,'* 1917, VII, *p.* 313).—**M. Junior.**—The patient was a boy, aged 14 years, who presented more than fifty cartilaginous exostoses, chiefly on the long bones, at the site of the epiphysial cartilages. The head was not affected. The first exostoses to appear were on the ribs, where they developed at the age of two years. There were no other cases in the family. Although the Wassermann reaction was slightly positive, there was no other sign of syphilis in the patient. J. D. ROLLESTON.

The pathology of the congenital funnel-shaped thorax (*'Riv. di Clin. Pediat.,'* 1917, xv, *p.* 595).—**R. Simonini** evolves an interesting theory concerning the causation of this condition. He does not admit the influence of rickets, which is absent in the majority of the cases, nor arrest of development or excessive shortness of the sternum, nor the theory of Kundmüller that the condition is due to abnormal softness of the bones. He says that in some cases, where there is marked difficulty in breathing, it is not rare to find a temporary funnel-shaped thorax due to forcible contraction of the diaphragm, so that not only the antero-inferior median parts become approximated, but also the lateral, corresponding to the insertions of this same muscle. He therefore thinks that the diaphragm plays an important part in the production of the funnel-shaped thorax. He moreover found in three autopsies that the liver was adherent to the diaphragm, and attributes the funnel shape of the thorax to its exaggerated and abnormal action under these conditions. VINCENT DICKINSON.

A case of cervical rib simulating Pott's disease (*'Arch. de méd. des enf.,'* 1918, xxi, *p.* 83).—**J. Renault** and **Romme** record a case in a girl, aged 13 years, who, owing to her habit of keeping her head and neck bent forward, had been wrongly supposed to be suffering from Pott's disease in the cervical region. Movements of flexion, extension and rotation all took place normally. The cervical column was normal, but the dorso-lumbar column showed some scoliosis. There was also some degree of lordosis. The right supraclavicular fossa presented a slight projection, which the X rays showed to be due to a cervical rib. The child also presented deformities of the fingers, extreme myopia, and a subnormal intelligence.

J. D. ROLLESTON.

Fractures of the neck of the femur in children (*'New York State Journ. Med.,'* 1917, xvii, *p.* 508).—**H. L. Taylor** reaches these conclusions: (1) Fracture of the neck of the femur may occur at any age. (2) The typical fracture of the neck of the femur in children up to thirteen is a hinge fracture at the junction of the neck and shaft; this fracture is one cause of coxa vara. (3) From thirteen to sixteen the typical injury is fracture at or near the epiphysial line, with marked displacement. (4) Above sixteen the type of fracture of the femoral neck does not differ from that in adults. Notes on seven cases are appended. J. ALLAN.

Fracture of the neck of the femur in a child (*'Journ. Amer. Med. Assoc.,'* 1918, lxx, *p.* 84).—**C. A. Parker** reports an instance of this rare fracture in children which occurred in a boy, aged 9 years, as the result of a fall from a height of 15 ft. The lesion was shown by a skiagram.

T. R. WHIPHAM.

A case of fracture of the pelvis with rupture of the bladder in an infant under 2 years, with recovery (*'Boston Med. and Surg. Journ.,'* 1918, clxxix, *p.* 100).—**R. W. Augevine.**—A female baby, aged 23 months, was run over by the rear wheel of an automobile. There were few symptoms of shock. Pain apparently was not great. The abdominal wall was slightly more tense than normal. X rays showed oblique fracture of the left ramus of the pubis. Bloody urine was removed by catheter. On laparotomy under ether free fluid containing blood and having a urinary odour was present in the abdominal cavity, and a tear $\frac{3}{4}$ in. long was found extending antero-posteriorly along the bladder-wall. This was stitched, and a drainage-tube was left in the abdomen for forty-eight hours. Complete recovery took place. J. D. Rolleston.

A series of severe cases of osteomyelitis (*'Practitioner,'* 1918, ci, *p.* 163).—**R. A. Walker** describes six cases admitted to St. Thomas's Hospital in seven months. Case 1: A boy received a blow on the leg five weeks previously. Three days previous to admission the leg became painful. Numerous incisions were made. No pus was found, but a small amount of watery fluid was present in the tissues. Death occurred two days later, and the *Staphylococcus aureus* was present in the pus found in the pericardium and lungs. (2) Girl, aged 12 years: No history of trauma. Severe pain in the left foot and ankle, which were swollen. No pus was found on operation, which consisted of numerous incisions; as these did not improve the condition amputation below the knee was performed, but death occurred on the second day. Pus was found in the ankle-joint and sheath of the tendons, and contained the *Staphylococcus aureus.* (3) Boy, aged 15 years: Pain in the right leg and swelling as a result of a fall. On operation pus was found in the medullary cavity containing the same organism as in the other two cases. Recovery. (4) Boy, aged 8 years: No history of trauma to cause severe pain and swelling over the internal malleolus of the left leg. On operation pus was found in the medulla, and on the fifth day a pyæmic abscess formed on the chest-wall. Death occurred, and post-mortem examination revealed abscesses in the pericardium, lungs and kidneys. *Staphylococcus aureus* was found in the pus. (5) Boy, aged 4½ years: The left leg was swollen and very painful. There was a history of a slight fall six days previously. Subperiosteal resection of the shaft of the tibia was performed with success, but pleurisy with effusion requiring tapping occurred. *Staphylococcus aureus* was found in the pus and fluid. (6) Boy, aged 13 years: The right femur was painful, but there was no redness or œdema. A month previously he had a fall. An operation was performed. On the fifth day the left ankle became swollen and painful. The joint was opened and the pus removed. Death occurred. Post-mortem examination showed solid pneumonia in both lungs; no abscess. Pyæmic abscess in buttock. No pericarditis. *Staphylococcus aureus* was present in the pus.
F. R. B. Atkinson.

Salivary fistula following a simple mastoidectomy with cervical abscess (*'Ann. of Otology,'* 1917, xxvi, *p.* 113).—**F. C. Schreiber.**—A rare post-operative sequel. The case, a girl, aged 7 years, showed it in conjunction with facial paralysis—a double catastrophe regarded by the recorder as unique. She was operated upon for acute mastoid abscess with cervical abscess at the age of two. Macleod Yearsley.

The repair of cleft palate (*'Journ. Amer. Med. Assoc.,'* 1917, lxix, *p.* 1966).—**H. M. Sherman.**—All operators to-day are practically using the Langenbeck or the Lane method of closing the soft palate. The former, recognising that the cleft represents a failure of union, attempts to correct that fault by putting the parts in union with the least disturbance of tissues. The Lane method splits the velum between its pharyngeal and buccal sides, and turns flaps over from one side to the other. This necessarily jeopardises the palatal muscles in the splitting, and results in extensive scarring in healing. The Langenbeck method can be so done as to disturb the muscles individually not at all, though they are, as a group, moved toward the middle line. The statement that the Langenbeck method is inadequate in a wide cleft with a flat palatal arch does not apply to the velum. Instead of paring the sides of the cleft to get raw surfaces for union, the author splits them from the attachment of the velum to the tips of the uvular halves, and sutures the posterior edges of the split uvular halves together, tying the knots in the pharynx, and follows by uniting the anterior edges, tying the knots in the mouth. Full details and diagrams of the author's operation are given in the text.

T. R. Whipham.

Congenital hypertrophic stenosis of the pylorus ('*Lancet*,' 1918, I, *p.* 804).—**T. J. Wood** reports a case in a male infant, aged 6 weeks, which was successfully treated by posterior gastro-enterostomy. The pylorus was in a very rigid state, and gastric lavage, as recommended by Hutchison, would probably have been of no service. J. Allan.

Hypertrophic pyloric stenosis in a two-year-old child ('*Journ. Amer. Med. Assoc.*,' 1918, LXX, *p.* 1913).—**A. J. Scott.**—Cases of hypertrophic pyloric stenosis after the second or third month are very rare. The present case was that of a boy, aged 22½ months, who was brought to hospital for vomiting, loss of weight and extreme restlessness which had set in about a month previously. The abdomen was scaphoid, with visible peristaltic waves but with no palpable tumour. A fluoroscopic examination showed that nothing passed through the pylorus. As the child's condition became worse in spite of stomach-washings, followed by gavage of barley-water and egg-albumin, operation was performed and revealed a typical pyloric stenosis. A modified pyloroplasty was carried out. Death took place the following day. J. D. Rolleston.

Intussusception in children ('*New York Med. Journ.*,' 1917, CVI, *p.* 400).—**G. Torrance** speaks of the importance of early diagnosis. Value should be attached to the mother's history of sudden screaming, vomiting, and afterwards occasional attacks of abdominal pain, with straining and blood passed *per rectum.* The only condition to be excluded is colitis, in which there is usually fever and frequent motions of mixed fæcal matter and bloody mucus. The abdominal tumour in intussusception is not always felt, and it is important not to wait till a tumour can be felt *per rectum.* One case of appendicitis and one of a spastic ileus have been reported simulating intussusception, but as the treatment was similar the mistake is of little importance. As regards ætiology, Laws says intussusception occurs more frequently in healthy, well-nourished infants; 49 out of 63 were under one year old. It has occurred as a sequel to whooping-cough and round-worms. Operation within the first twelve hours after the onset is the only treatment to be considered. J. Porter Parkinson.

Intussusception: its early recognition ('*Arch. of Ped.*,' 1917, XXXIV, *p.* 781).—**H. Apfel** reviews the literature, and reports a case in a girl, aged 9½ months, who was operated on only nine hours after the first symptom. An ileocæcal intussusception about 12 in. long was found and reduced. Rapid recovery took place. J. D. Rolleston.

Two uncommon forms of intussusception occurring simultaneously in the same patient ('*Lancet*,' 1918, I, *p.* 437).—**J. A. C. Macewen** reports this case in a male infant, aged 18 months, who was admitted to hospital with a history of persistent vomiting for three days prior to admission, and the passing of mucus, blood and slime by the bowel, but no fæcal matter. General condition was poor. At the operation a short intussusception of the small intestine about the upper end of the ileum was found. This appeared to be recent, was easily reduced, and involved about six inches of bowel in all. On further search a second intussusception was found at the splenic flexure, the transverse colon being projected into the descending colon for about three inches. This intussusception was less recent and was much more difficult to reduce. The infant recovered from the intussusceptions, but unfortunately developed a subacute pneumonia and died twenty-five days after the operation. J. Allan.

Intussusception of the bowel in an infant followed by a second intussusception three weeks later (*'Amer. Journ. Dis. Child.,'* 1917, XIV, *p.* 63).—**A. Peskind.**—The infant was not quite 5 months old. At the first operation the lower end of the ileum, appendix, cæcum, and part of the ascending colon were found telescoped into the transverse colon. The appendix, which was almost black, was tied off and removed. The rest of the incarcerated bowel was gangrenous in places, but the child's condition prevented resection. Within forty-eight hours the temperature and pulse became normal, and recovery seemed complete within nine days. Three weeks later, however, symptoms of acute obstruction developed and the abdomen was opened again, when several inches of the ascending colon were found telescoped into the transverse colon. This second intussusception was easily reduced, but the cæcum and part of the ileum at the site of the first intussusception were found matted together, and the lumen of the bowel seemed obliterated. Ileocæcostomy was performed, and though double pneumonia developed on the third day after the operation, complete recovery took place. J. D. Rolleston.

Acute intussusception: a rational method of treatment (*'Lancet,'* 1918, I, *p.* 803).—**S. W. Daw** was called upon to operate on a male infant, about a year old, for acute intussusception of some thirty-six hours' duration. The tumour was exposed and reduced up to the last few inches. Beyond that point no legitimate pressure would move it, and the bowel was beginning to show signs of giving way. The stage was reached at which resection is the usual procedure. By means of a pair of "ring forceps" the constricting entrance was enlarged, and the intussusception was then easily reduced. There was a little lymph on the portion of bowel thus exposed, but it appeared quite recoverable, so it was returned and the abdomen closed. The patient made an uninterrupted recovery.

J. Allan.

Chronic intussusception (*'Lancet,'* 1918, I, *p.* 215).—**H. W. G. Mackenzie** and **W. H. Battle** record a case in a boy, aged 15 years, who had complained simply of "noises in the stomach." There was no pain, no vomiting, no constipation. After careful examination a diagnosis of chronic obstruction of the lower end of the small intestine, caused by some mechanical change near the ileocæcal valve, was made. At the operation the ileocæcal angle, including cæcum and about 7 in. of the ileum, was resected. The parts removed showed the wall of the ileum to be nearly ¼ in. in thickness from hypertrophy. Water from a tap could not be forced along the lumen of the gut. When a longitudinal incision was made the condition was shown as a long-standing intussusception, about 6 in. of the ileum being affected, and so closely adherent that the parts had to be separated with scissors. J. ALLAN.

An unusual case of malposition of the appendix ('*Journ. Amer. Med. Assoc.*,' 1918, LXX, *p.* 23).—**H. T. Miller** operated upon a boy, aged 4 years, for a mass over McBurney's point which was found to be the head of the cæcum. The appendix could not be found in the usual situation, nor any sign of it. In the mass, however, a smaller moveable mass could be defined with its base attached to the cæcum opposite the point usually occupied by the appendix. This the author concluded to be the diseased appendix. The case was left to nature and the abdomen was closed. On the fourth day there was a copious discharge of yellowish matter and blood, and later a yellowish-green slough about 2 in. long was passed, which was presumably the appendix. An uneventful recovery took place. T. R. WHIPHAM.

Appendicitis in infants ('*Arch. of Ped.*,' 1917, XXXIV, *p.* 641).—**I. A. Abt** has collected 80 cases of appendicitis in infants under two years of age, 20 of which occurred in infants under three months, 6 between three and six months, 11 between six and twelve months, and 40 from one to two years. Manifest chill, which is rare in childhood, is infrequent in the first stage of the disease. The temperature is unreliable, as it may be very high or subnormal. The pulse usually corresponds to the temperature. Constipation is the rule, and occurs among the more severe types. Diarrhœa occurs in the milder types, though both conditions may be present and alternate with one another. Hereditary predisposition to the disease is often noticed, probably owing to some peculiar structural weakness of the lymphoid tissue of the appendix. Traumatism occasionally plays a part in the production of appendicitis, though it is probable that it is only an exciting cause when there has been a pre-existing chronic appendicitis. The frequent association of bladder symptoms with appendicitis had been noticed by Van der Bogert (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1917, XIV, *p.* 208). As the appendix in childhood frequently lies deep, tenderness may be greater on the left than on the right side. Rectal examination is very important in such cases. Where there is palpable resistance on the right side in the presence of other symptoms, the diagnosis of appendicitis should be strongly suspected. J. D. ROLLESTON.

Abscess of the abdominal wall from intestinal perforation by worms ('*Giorn. di Med. Mil.*,' 1917, LXV, *p.* 1046).—**A. F. Canelli.**—A boy, aged 12 years, was admitted to hospital with a swelling the size of an orange in the ileocæcal region The abscess was opened, and on the ninth day a dead ascaris was found at the bottom of the cavity, and the next day more worms were found in a small quantity of liquid fæces. Recovery took place. J. D. ROLLESTON.

Abscess of the abdominal wall with discharge of twenty-three ascarides; recovery ('*Gazz. d. Osp.*,' 1918, XXXIX, *p.* 401).—**T. Fiori** records a case in a girl, aged 14 years, in which the abscess was situated about 6 cm. to the right of the umbilicus and about 1 cm. above a horizontal line passing through the umbilicus, in a region corresponding to the small intestine. The abscess opened spontaneously, and in the course of seven months twenty-three worms were evacuated. The condition originated in an intestinal perforation, which had given rise to an adhesive peritonitis whereby the visceral layer became adherent to the parietal peritoneum.

J. D. Rolleston.

Ascaridiasis simulating appendicitis ('*Lancet*,' 1918, I, *p.* 637).—**A. Kidd** gives notes of a case in a female child, aged 8 years. The symptoms and physical signs pointed to appendix abscess and laparotomy was performed. The appendix was, however, normal and was not removed. At the operation the presence of round-worms in the intestines was detected. A course of treatment with santonin subsequently resulted in the evacuation of large numbers of round-worms at intervals, the total number being 212. **E. M. Walters** ('*Lancet*,' 1918, I, *p.* 725) reports a similar case in a child, aged 7 years. The total number of worms passed was 159.

J. Allan.

Death from volvulus caused by round-worms ('*Med. Record*,' 1918, xciv, *p.* 65).—**V. G. Heiser** reports a case in a child, aged 4 years. Two days after administration of oil of chenopodium the child developed abdominal distension with severe pains and frequent vomiting. Post mortem a mass of round-worms the size of a man's fist was found blocking the bowel; the intestines below the mass were so twisted as to cause complete obstruction. There was local peritonitis in the neighbourhood of the obstruction. More than 300 worms were found in the intestine.

J. D. Rolleston.

Notes on a case of strangulation of the cæcum in an inguinal hernial sac, complicated by acute appendicitis, in an infant, aged 16 months ('*Med. Journ. Austral.*,' 1917, II, *p.* 5).—**H. Bullock** opened the sac and allowed the turbid fluid to escape, removed the appendix, freed the gut, and returned it to the abdominal cavity. Recovery was uneventful.

F. R. B. Atkinson.

Strangulated hernia in a child, aged 3 weeks ('*Med. Journ. Austral.*,' 1917, II, *p.* 227).—**J. H. Ingham.**—Operation was successfully performed thirty-six hours after the onset of symptoms. F. R. B. Atkinson.

Umbilical fistula following empyema necessitatis ('*La Med. de los Niños*,' 1916, xvii, *p.* 7).—**M. Vargas.**—A boy, aged 6 years, was admitted to hospital with pus trickling from the umbilicus. There was a history of appendicitis, but a probe passed into the fistula did not lead downwards, but up under the ribs. Examination of the chest showed signs of extensive left pneumothorax. The seventh, sixth, fifth, and part of the fourth ribs were resected, together with part of the inferior angle of the scapula. Recovery took place, though the child stopped breathing during the removal of the sixth rib owing to pressure of the sternal end interfering with the heart's action. J. D. Rolleston.

Types of cerebral defects in children that may be benefited by operation ('*New York State Journ. Med.*,' 1916, xvi, *p.* 484).—**H. G. Matzinger** discusses what types of cases offer a reasonable hope of cure or sufficient benefit from operations upon the head to warrant operative interference. He thinks by far the most reliable and important sign of increased intracranial pressure is changes in the fundus of the eye. These are easily discovered by ophthalmoscopic examination, and appear as congested vessels, choked disc, and atrophic changes, etc. Disorder of the cranial nerves also develops frequently and early. When these new symptoms appear in a case of infantile cerebral paralysis operation is indicated, and should be undertaken, not with the object of cure, but in the hope of prolonging life if such a result is desirable. J. Allan.

Double venereal infection in a child (*'Arch. Bras. de Med.,'* 1917, vii, *p.* 268).—**A. Farani.**—The patient was a girl, aged 6 years, infected with gonorrhœa and syphilis. Contamination was due to interfemoral coitus, which was performed by a man suffering from these two diseases under the belief that he would be cured by passing them on to a healthy subject. The child presented vulvo-urethritis, mucous tubercles round the anus, as well as fever, polyadenitis, and a general œdema due to acute nephritis, a rare complication of infantile syphilis. Considerable improvement followed specific treatment. J. D. Rolleston.

Orthopaedics.

The ætiology of Perthes' disease (*'Journ. Amer. Med. Assoc.,'* 1917, lxix, *p.* 1598).—**P. W. Roberts** states that the ætiology of osteochondritis of the hip, generally known as Perthes' disease, has been the subject of much speculation ever since the condition was recognised as a clinical entity several years ago. Traumatism, obscure infection and perverted metabolism have each had their advocates. Tuberculosis has been eliminated because the joints recover with good function, and syphilis has been excluded because Wassermann reactions have been negative. Notwithstanding the results of laboratory tests, the author advances the opinion that this affection of the hip, which occurs with considerable frequency in children, is the result of inherited syphilis. The negative Wassermann may be disposed of, for it is common experience that subjects with frankly syphilitic bone lesions, when a family history of syphilis exists and when the pathological process disappears under mixed treatment, give a negative Wassermann reaction. Therefore, it may be contended that a negative Wassermann reaction in Perthes' disease does not exclude syphilis. The pathological findings described by Perthes also coincide with one of the most common expressions of bone syphilis in children, namely, osteochondritis. Then, again, subjects with Perthes' disease show dental evidence of inherited syphilis. This does not mean Hutchinsonian teeth necessarily, but more frequently the erosions and malformations of the first permanent molars and other units that have been so well described by Cavallaro, or anomalies of spacing of the incisors. Finally, the course of osteochondritis of the hip is similar to that of many other syphilitic joint conditions in that the destructive process is self-limited, and that there is a tendency to more or less complete restoration of function. The author records two cases in girls, aged 8 and 11 years respectively, in whom the symptoms rapidly disappeared under specific treatment.

T. R. Whipham.

Treated and untreated osteo-chondritis juvenilis of the hip (*'Journ. Amer. Med. Assoc.,'* 1917, lxix, *p.* 1060).—**W. Blanchard** states that Perthes' disease or osteochondritis deformans juvenilis seems to be a nutritional disease of the bones and muscles of the hip and leg. The femoral head that continues in functional use during the acute stage of the disease becomes obliterated wholly or in part by the attrition of weight-bearing on softened bone, while the head of the femur that is mechanically protected throughout the acute stage of the disease suffers only the same atrophic changes as the adjacent bones. In convalescence, the destroyed head re-develops rapidly under mechanical protection, and re-develops more slowly and less perfectly without protection. The disease progresses with one year of bone and muscle atrophy and lessened density followed by several years of increasing density and re-development. The bone hardening resembles the eburnation after rickets. From the foregoing facts it may be inferred that this disease of growing bone is nutritional in character, and is due to a distorted blood-circulation. T. R. WHIPHAM.

The sphere of arthroplasty in the treatment of ankylosis (‘*Edin. Med. Journ.*,’ 1917, II, *p.* 176).—**Alexis Thomson** reports two cases in children. A girl, aged 14 years, was admitted to hospital on account of stiffness of the right shoulder. No history was obtainable. At the operation there was found an old-standing separation of the epiphysis and subcoracoid dislocation of the head of the humerus. The greater part of the head was removed to secure free movement of the upper end of the shaft in the glenoid cavity; a portion of the fascia lata, large enough to wrap round the head of the bone, was removed from the right thigh and stitched in position between the bones; the limb was put up in the attitude of right-angled abduction. The object of the operation—a sufficient range of movement at the shoulder-joint—was attained. In the second case, a schoolboy, aged 13 years, had complete osseous ankylosis of the right knee following “acute arthritis of infants.” Arthroplasty by Murphy’s method was performed, but the ankylosis recurred. The author thinks that while arthroplasty may be brilliantly successful in joints ankylosed by purely traumatic lesions, it is liable to fail in joints ankylosed as a result of bacterial infection. J. ALLAN.

The treatment of deformities of the spine caused by poliomyelitis (‘*Journ. Amer. Med. Assoc.*,’ 1917, LXIX, *p.* 787).—**R. A. Hibbs** reports 8 cases in which a fusion operation was performed with good results. The operation consists in elevating the periosteum of the vertebræ from the adjacent bases of the spinous processes and the adjacent edge of the laminæ to the ventral side. A small piece of bone is elevated from the laminæ and turned down, its free end resting on the one next below it. The spinous processes are then partially divided with forceps for that purpose, and broken down so that the tip of one comes in contact with the base next below it. This completes all that is necessary to do to the bone. The periosteum and ligament which have been separated are then brought together and sutured in the centre with catgut. Immediately after operation a brace or jacket is applied, maintaining as much correction as is comfortable to the patient. The patient is kept in bed for eight weeks, and the brace is worn for one year. In six of these cases there was conspicuous deformity, and such weakness in three that the patients could not sit up unaided, much less walk. All of them have been given a much better posture, much more stability, and, it is believed, protection from a progressive increase of deformity. T. R. WHIPHAM.

The importance of the ligaments of the ankle in correction of congenital club-foot (‘*Journ. Amer. Med. Assoc.*,’ 1917, LXIX, *p.* 1057).—**I. Zadek** and **E. L. Barnett** draw attention to the necessity for dividing the posterior ligament of the ankle-joint in addition to the tendo Achillis in cases of congenital talipes equinus. By this means the foot can be pushed into dorsal flexion and the os calcis tilts up to a normal degree.

T. R. WHIPHAM.

Ophthalmology.

Familial head nystagmus in four generations associated with ocular nystagmus ('*Journ. Amer. Med. Assoc.*,' 1917, LXIX, *p.* 773).—**N. S. Yawger** gives an account of a family of Russian Jews in which combined nystagmus of the head and eyes occurred in at least four generations and persisted throughout life. The first known cases in the family were two brothers, one of whom died at the age of 86, and had eight children. Most of them died young, but one daughter who had nystagmus lived to be 80, and another who did not have the disorder transmitted it to two sons by different husbands; her daughter is unaffected. The elder son is neuropathic and stammered badly as a child. He has eight children, four of whom have been stammerers, but none shows the combined nystagmus, although in one daughter extreme excursion of the eyes causes a horizontal nystagmus. The younger son is somewhat dwarfish, and has two sons and a daughter. The older son is normal, but the other children are twin and undersized, and the girl has the familial affection.

T. R. WHIPHAM.

The ætiology of congenital ophthalmoplegia ('*New York Med. Journ.*,' 1918, CVII, *p.* 992).—**Editorial.**—This affection is twice as common among boys as girls, and is hereditary and familial in half the cases. It is always congenital, and there is usually no history of difficult labour. Occasionally other malformations are present, as closed fontanelles, etc. The bodily development is sometimes retarded. A family history of syphilis, tubercle and alcoholism seem to have no influence. Data for establishing the ætiology are wanting at present. J. PORTER PARKINSON.

Energy metabolism of an amaurotic family idiot ('*Amer. Journ. Dis. Child.*,' 1918, XVI, *p.* 39).—**F. B. Talbot** investigated the energy metabolism of an amaurotic family idiot girl, aged 2 years and 4 months. She was extremely thin and emaciated, and moved in bed only when disturbed by sound or touch. The amount of muscular activity during the day was so slight as to be almost negligible, except during convulsions. The metabolism was found to be very low when compared to that of normal infants of the same weight or same age. J. D. ROLLESTON.

Brittle bones and blue sclerotics ('*Gazz. d. Osp.*,' 1918, XXXIX, *p.* 367). —**A. Marconi** refers to the cases reported by Rolleston (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES,' 1911, VIII, *p.* 202), Adair-Deighton (*ibid.*, 1912, IX, *p.* 376), Peters (*ibid.*, 1913, X, *p.* 522), Hoffmann (*ibid.*, 1916, XIII, *p.* 317), and others, and records the following personal case. A soldier, aged 21 years, was admitted to hospital for a fracture of the left external malleolus which had occurred without appreciable cause during marching. There was a history of several previous fractures—first at the age of 3 years in the lower third of the right tibia, and a few months later at a corresponding point of the left tibia, on both occasions as the result of a fall. At the age of 4 years he fell off a chair and fractured the right arm a little above the elbow, and shortly afterwards the last phalanx of the middle finger of the left hand. Apart from the fractures the X rays showed nothing abnormal in the bones. The patient also presented a deep turquoise coloration of the sclerotics. None of the family were similarly affected. J. D. ROLLESTON.

Blue sclerotics, brittle bones, and deafness (*'Arch. f. Ophth.,'* 1918, XCV, *p.* 81).—**J. van der Hoeve** and **A. de Kleyn.**—In a family consisting of 22 persons, 9 presented the triad of blue sclerotics, brittle bones, and otosclerosis, 1 had otosclerosis and brittle bones only, and 1 otosclerosis and blue sclerotics only. In addition to fractures the patients also showed deformities of the bones, *e. g.* curved tibiæ, kyphosis, lordosis, and scoliosis. Two had had dislocations. Almost all were small and delicately built. Most had errors of refraction. Embryontoxon was not observed. In 7 of the abnormal members of the family the second and third toes of both feet had grown together, and one of them had also syndactyly of the third and fourth toes. In another family of 6 persons examined by van der Hoeve 3 presented the complete triad, 1 had blue sclerotics only, and 2 had blue sclerotics and brittle bones without otosclerosis (*cf.* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1911, VIII, *p.* 202; 1912, IX, *p.* 376; 1913, X, *p.* 522; 1914, XI, *p.* 307; 1916, XIII, *pp.* 25 and 317; and 1917, XIV, *p.* 298). J. D. ROLLESTON.

Blue sclerotics with brittle bones (*'Albany Med. Annals,'* 1918, XXXIX, *p.* 169).—**J. B. Harvie** reports a case in a boy, aged 8 years. Father is a well-developed man and in good health. Mother had blue sclerotics and fractured her humerus in early life; this united firmly with no resulting disability. She died from carcinoma of the uterus when forty years of age. She had no miscarriages; there are five children—four boys and one girl. The second eldest boy has blue sclerotics, and has had multiple fractures. The other members of the family are healthy and apparently perfectly normal. In the present case the boy is somewhat undersized, and is rather poorly developed. All the fractures have occurred on the left side—the left tibia and fibula, the forearm, the end of the humerus, the femur and the clavicle. Some have been associated with a known injury and some have not. The bones in the vicinity of the fractures are exceedingly porous and seem to possess little mineral deposit. They are more transparent than usual, as shown by the X rays. They are soft, bend easily, and assume a sickle shape. The cortical substance is lacking and the bones are exceedingly slender, particularly the clavicles and fibulæ. The latter are about the size of an ordinary knitting-needle. The muscles and the ligaments show lack of tonicity. The joints have a wide range of motion, so that the legs may be thrown in all directions. There is marked hypotonia. The sclerotics present a pale china-blue appearance. A brief review of some previously published papers is appended. J. ALLAN.

The ætiology of phlyctenular conjunctivitis (*'Amer. Journ. Dis. Child.,'* 1918, XV, *p.* 81).—**W. S. Gibson.**—Clinical observations on 92 cases of phlyctenular conjunctivitis revealed the presence of tuberculosis in 90 cases as shown by a positive von Pirquet's test. In the two giving a negative reaction the diagnosis was doubtful. No other condition, either local or general, could be found with sufficient frequency even to suggest any direct influence in producing the disease. Phlyctenules were produced experimentally in tuberculous rabbits in 8 cases, 6 times as a complication of Calmette's reaction, and twice without any local irritation. Numerous attempts to produce the condition in non-tuberculous animals failed. The microscopical findings suggested a tuberculous origin. Gibson concludes that all clinical, experimental and pathological evidence points to tuberculosis and tuberculosis alone as the cause of phlyctenular conjunctivitis.

J. D. Rolleston.

Membranous conjunctivitis following a squint operation ('*Lancet,*' 1917, II, *p.* 348).—**S. J. Taylor** performed an advancement-cum-tenotomy operation for a convergent squint in a girl, aged 11 years. Two days later the upper eyelid was a little more swollen and glazed than is usual, and the advancement-wound region did not look quite nice. This was soon succeeded by a definite, dirty, membranous area, which was diagnosed clinically as diphtheritic, though no bacteriological examination was made. Antitoxin was injected hypodermically, quinine lotion was used freely and frequently, and the condition slowly cleared up. The general systemic disturbance was very slight. The patient had had diphtheria last Christmas, but this attack apparently did not confer immunity against the local affection. The child's home environment is most unsatisfactory, the ground behind the house being soaked with sewage, and there being no drainage system there.

J. Allan.

A case of injury to the eye by the bursting of a liquid-core golf-ball ('*Med. Journ. Austral*,' 1918, I, *p.* 302).—**J. C. Halliday**.—A boy, aged 10 years, was sawing through a golf-ball when some white fluid from its interior flew up into his right eye. Marked swelling of the lids and chemosis of the conjunctiva together with photophobia and a serous discharge resulted; a fortnight afterwards the cornea became steamy. After about five weeks the eye was becoming normal. (*Cf.* British Journal of Children's Diseases, 1916, XIII, *p.* 319.—Ed.). F. R. B. Atkinson.

Primary unilateral optic atrophy in a child following fracture of the skull ('*Journ. Amer. Med. Assoc.*,' 1918, LXX, *p.* 1595).—**A. Bray.**—A girl, aged 4 years, was knocked down by a motor truck and rendered unconscious. X rays showed a fracture of the base of the skull and of the frontal bone into the frontal sinus. No ophthalmoscopic examination was made until five months after the fracture, when the right disc was found to be well defined, somewhat excavated and blueish pale, and the retina normal. Primary optic atrophy is very rare in children, and probably never occurs as a constitutional condition as in tabes, multiple sclerosis, and cerebro-spinal syphilis in adults, but may be caused by trauma. The trauma may affect the nerve directly, causing laceration, or indirectly as the result of some pressure resulting from the injury. The fracture may also involve the orbital bones. The prognosis is very grave, as blindness usually ensues. J. D. Rolleston.

The cause and prevention of myopia ('*Lancet,*' 1918, I, *p.* 137).—**F. W. Edridge-Green** maintains that the primary and essential cause of myopia is an obstruction of the outflow of the fluid of the posterior lymph passages, which, increasing the intraocular tension, distends the sclerotic and causes myopia by elongation of the eyeball. The posterior portion of the sclerotic is a weak spot, which will give way on undue pressure. This is particularly likely to occur whilst the eye is soft and growing, but under great stress appears to occur at almost any age. Any cause which will increase the intraocular tension by obstructing the outflow should be avoided in any case of commencing myopia so as to stop increase in the myopia and in advanced cases detachment of the retina. Careful regulation of exercise, especially in the debilitated, is necessary. Exercises which, whilst very easy for some, are accomplished by the patient with the greatest difficulty and strain, should be forbidden. Exercises which after inquiry are found to cause a feeling of pain and tension in the eyes should be strictly forbidden, but it is not necessary to keep the patient from books. It should be remembered that a myopic eye is a damaged eye, and should not be unduly strained. This is particularly the case when the myopia has just occurred or is still increasing. The same precaution should be taken in case of illness, like measles, etc. Patients should not be kept longer than possible in a recumbent position, and exercises which are likely to increase the intraocular tension should be forbidden until they have quite recovered.

J. Allan.

Review.

Transactions of the American Pediatric Society. Twenty-ninth Session, May, 1917. Edited by Oscar M. Schloss, M.D. Vol. xxix. Pp. 255.

This well-printed and illustrated volume contains thirty-three papers, some published already, on very various subjects which were read and discussed at the annual meeting at the Greenbriar, White Sulphur Springs, W.V.A. Among the longer papers Dr. Fritz B. Talbot's account of the twenty-four-hour metabolism of two normal infants with special reference to the total energy requirements embodies the results of a research begun five years before with Benedict. Dr. Abt contributes a valuable article for future reference on congenital skin defects which are most often seen on the scalp; he reports a case and collects thirty-five cases from other sources with a number of illustrations. An experimental investigation on the focal lesions produced in the rabbit by colon bacilli isolated from cases of pyelocystitis by Helmholz and Beeler shows that the intravenous injection of these bacilli sets up typical pyelocystitis in rabbits. There are three papers on acute poliomyelitis and others, such as Herrman's on three cases of sporadic cretinism in one family, that are of special interest and value. H. D. R.

INDEX.

ABSCESS, acute mastoid; salivary fistula following mastoidectomy, 283
— of abdominal wall caused by worms, 286
Abt (I. A.), appendicitis in infants, 286
— congenital skin defects, 50
— familial icterus of newborn, 52
ACNE scrofulosorum, 47
ACROASPHYXIA, congenital persistent, 137
Adamson (H. G.), bullous urticaria, 47
ADENOIDS, conditions leading to incorrect diagnosis of, 70
— treatment of, 70
ADENOMA of umbilicus, 281
— sebaceum: Pringle type, 46
ADENO-SARCOMA of kidney; removal; recovery, 142.
AGENESIS, periumbilical cutaneous; appendicectomy, 51
Aikman (J.), acute ileo-colitis, 278
ALBUMINURIA in scabies, 148
AMAUROTIC family idiot, energy metabolism of, 290
AMERICA and Children's Year, 80
AMEUILLE, see *Labbé*.
AMINO-ACID nitrogen in systemic blood, 126
Amsden (H. H.), hæmorrhage following tonsillectomy, 72
ANÆMIA, aplastic, 127
— "pernicious," 127, 128
— with unusual blood-count, 274
ANAPHYLAXIS (G. H. Waugh), 37
— relation of asthma to, 58
ANEURYSMS, ruptured aortic, in childhood (E. Bronson and G. A. Sutherland), 241
ANKYLOSIS, arthroplasty in, 289
AORTA, congenital obliteration of, 138
Apfel (H.), intussusception; early recognition, 284
APPENDICECTOMY for periumbilical cutaneous agenesis, 51
APPENDICITIS, acute, with strangulated cæcum, 287
— in family of heredo-syphilitics, 151
— in infants, 286
— simulated by ascaridiasis, 287
APPENDIX, unusual malposition of, 286
ARRHYTHMIAS of heart in children, electrocardiograph elucidation, 136
ARTHROPLASTY in ankylosis, 289
ASCARIDIASIS simulating appendicitis, 287
ASCITIC hepato-myocardiac syndrome, 137
ASTHMA, relation to anaphylaxis, 58
ATRESIA, congenital, of small intestine, 277
Augevine (R. W.), fracture of pelvis with rupture of bladder; recovery, 282
AURICULAR education of deaf children, 69
AURICULO-VENTRICULAR orifice (right), congenital atresia of; absence of tricuspid valves, 133

Bacon (Gorham), complications of acute middle-ear suppuration, 69
BACTERIOLOGY of urine, 139
— — in vulvo-vaginitis, 146
Bankart (A. S. B.), congenital malformation of left temporo-maxillary and both hip-joints, 42
— sarcoma of right kidney with metastatic deposits in skull, 43
Banks-Davis (H. J.), cystic swelling (? dermoid) occluding right cartilaginous meatus, 47
— pea removed from middle ear, 48
BANTI'S disease, prognosis and treatment, 129
Barbier (H.), pulmonary tuberculosis in first two years of life, 62
Bardes (A.), tonsils and rheumatism, 71
Barlow (H. W. L.), smallpox in childhood, 110
Barnett (E. L.), see *Zadek* (I.).
Bass (M. H.), mitral stenosis, 135
— see also *Wessler* (H.).
Battle (W. H.), see *Mackenzie* (H. W. G.).
Beeler (C.), bacteriology of urine, 139
— see *Helmholtz* (H. F.).
Belcher (D. P.), child 25 lb. at birth, 50
BELLY, big, flabby, in infancy, 278
Benson (A. W.), see *Wollstein* (M.).
BENZOL treatment in leukæmia, 128
Berger (H. C.), eosinophilia following foreign protein, 127
Berghausen (O.), attempted specific medication in hydrophobia, 237
BERI-BERI, infantile, "food deficiency," or vitamine theory in application to (Major F. M. R. Walshe), 258
Berkley (H. K.) and **Lee (J. M.)**, hypertension in nephritis, 140

Bernhard (A.), see *Leopold* (J. S.).
BILE-DUCTS, congenital obliteration of, 45, 51
— occlusion of, 52
Bingel (A.), treatment of diphtheria with ordinary horse-serum, 230
Birnberg (T. L.), see *Kramer* (G. B.).
Blackfan (K. D.), cutaneous reactions from proteins in eczema, 148
BLADDER, rupture of, with fracture of pelvis; recovery, 282
Blanchard (W.), treated and untreated osteochondritis juvenilis of hip, 288
Blauner (S. A.), thrombophlebitis of inferior vena cava complicating varicella, 232
BLOOD, chlorine content of, in newborn infants, 50
— cholesterin content of, in the exudative diathesis, 127
— coagulation of, in purpura and hæmophilia, 224
— examinations in sixty-eight infants, 127
— non-protein nitrogenous constituents of, and the phenolsulphonephthalein test, 139
— systemic, amino-acid nitrogen in, 126
Bloom (C. J.) and **Stone (R. E.)**, traumatic rupture of left kidney, 143
BLUE sclerotics and brittle bones, 290, 291
Bogert (F. Y.), congenital atresia of small intestine, 277
— vaccine in prevention of whooping-cough, 236
Boot (G. W.), tonsil question in children, 71
Borobio (P.), vesical calculi (sixty-eight cases), 144
BOTULISM (discussion at Royal Society of Medicine), 274
BOVINE infection of tuberculosis, 62
Boyd (W. S.), complications of scarlatina, 230
Bradley (B.), "pernicious" anæmia, 127
BRADYCARDIA, 137
BRITTLE bones and blue sclerotics, 290, 291
— — and deafness, 291
Brocq (L.), eruption of tuberculides of lichen scrofulosorum type round intradermo-reaction to tuberculin, 149
BRONCHUS, foreign body in, 226
Bronson (E.), erythema nodosum with tuberculosis, 91
— and **Sutherland (G. A.)**, ruptured aortic aneurysms in childhood, 241
Bronte (R. M.), abnormal viscera, 134
Brosius (O. T.), cerebral malaria, 236
Brown (G. A.), lupus, 148
— after-training of defectives, 158
Brown (N. W.), paroxysmal tachycardia, 136
Bullock (H.), strangulated cæcum in inguinal hernial sac, and acute appendicitis, 287
Bunch (J. L.), agminated molluscum contagiosum, 224
— vitiligo patches with central pigmented mole, 43
Burnet (J.), conditions simulating disease which may be produced by teething, 26
— pregnancy at fourteen, 119
BURNS and scalds as cause of child disablement and death, 280

CÆCUM, strangulation of, in inguinal hernial sac, and acute appendicitis, 287
CALCULI, preputial, 144
— vesical (sixty-eight cases), 144
Cameron (H. C.), cretinism, 45
— — showing delay of epiphysial development, 45
— erythromelalgia, 45
— osteomalacia and infantilism with horseshoe kidney and interstitial nephritis, 44
— — — with renal deficiency, 44
— and **Tretheowan (W. H.)**, case for diagnosis (asymmetry), 273
CANCRUM oris following paratyphoid B infection, 233
Canelli (A. F.), abscess of abdominal wall caused by worms, 286
— lympho-granulomatosis infantilis, 131
— miliary tuberculosis in first weeks of life, 61
Cannata (S.), chlorine content of blood in newborn infants, 50
CARABELLI'S tubercle, significance of, 150
Carapelle (E.), prophylaxis and treatment of cerebro-spinal meningitis, 235
CARDIAC disease and the cardiac clinic, 135
— murmur, wide-spread, 135
Carnegie (W. E.), congenital obliteration of bile-ducts, 45
Carrau (A.), left recurrent paralysis and mitral disease, 136
Ceppellini (P.), vaccinotherapy in acute infectious diseases, 227
CEREBRAL defects and operation, 287
— malaria, 236
CEREBRO-SPINAL fever, 234
— — at Reading (1915–16), 34
— — in Palermo, 234
— meningitis, 233
— — prophylaxis and treatment, 235
— — serum reactions in, 234
CERVICAL rib simulating Pott's disease, 282
Chadwick (H. D.), diagnosis of tuberculosis, 63
Chalmers (A. K.), maternity and child-welfare schemes; responsibility of local authorities, 55
Chatelain (Mme.), see *Jeanselme* (E.).
CHICKENPOX, prophylactic vaccination, 232

Child care, 155, 156
Child-welfare and diseases of ear, nose and throat, 67
— and infectious diseases, 227
— and surgical tuberculosis, 67
— organisation and administration, 156
— see also *Maternity.*
Children's Year, America and, 80
— — President of Local Government Board on, 80
Chlorine content of blood in newborn infants, 50
Chloroma, 130
Cholesterin content of blood in the exudative diathesis, 127
Chyluria, non-parasitic, and chronic nephritis, 140
Circumcision followed by tuberculosis, 66
Cleft palate, repair of, 283
Clinic, cardiac, 135
Clarkson (**R. D.**), care of mental defectives, 158
Club-foot, congenital, importance of ankle ligaments in correction, 289
Cœliac disease, 279
Colon bacilli from pyelo-cystitis producing focal lesions in rabbits, 141
— bacillus pyelitis in boys, 141
Comby (**J.**), massive right lobar pneumonia, rapidly fatal, 61
— obliteration of inferior vena cava, 138
Condat (**Mlle.**), acute meningitis in newborn, 55
— epidemic pneumococcal infection in newborn, 55
— vulvo-vaginitis; vaccine treatment, 147
Condylomata acuminata, 146
Conjunctivitis, membranous, after squint operation, 292
— phlyctenular; ætiology, 291
Conrad (**H. B.**), pneumonia of unusually short duration, 60
Consumption and school attendance, 6
Cooper (**P. R.**), hæmatoma of umbilical cord; severe hæmorrhage following ligature, 53
Cornell (**E. L.**), pneumococcus found in stillbirth, 54
Cretinism, almost untreated, 45
— showing delay of epiphysial development, 45
Crowe (**S. J.**), **Watkins** (**S. S.**), and **Rothholz** (**A. S.**), relation of tonsillar and naso-pharyngeal infections to general systemic disorders, 72
Cumston (**C. G.**), clinical notes on megacolon, 21
Cusp, fifth, and hereditary syphilis, 123
Cyanosis, congenital, familial; new method of diagnosis of congenital heart lesions, 134
Cystic swelling (? dermoid) occluding right cartilaginous meatus, 47

Dabney (**V.**), conditions leading to incorrect diagnosis of adenoids, 70
Davis (**E. D. D.**), acute otitis media, 68
Daw (**S. W.**), acute intussusception; rational treatment, 285
Deaderick (**W. H.**), aspects of malaria, 236
Deaf child from educator's standpoint, 157
— — auricular education of, 69
De Buys (**L. R.**) and **Lanford** (**J. A.**), comparison of luetin and Wassermann reactions, 152
Defectives, mental, 158
— — tests for future work, 157
— physical; problem of their education, 157
— — and mental, after-training, 158
Delivery, difficult; importance of fundus examination in infants, 53
Demole (**V.**), tuberculosis of pons, 65
Dengue, hæmorrhagic, 237
D'Espine's sign in childhood, 57
D'Espine (**A.**) and **Demole** (**V.**), tuberculosis of pons, 65
Dextrocardia, congenital, with patent foramen ovale, 133
Diagnosis, cases for, 43, 126, 273
Diphtheria in New York State, 228
— nasal, 228
— serum (horse), treatment of, 230
— subcutaneous emphysema in, 229
Diphtheritic (post-) paralysis; early signs, 229
Donald (**W. M.**), purpura fulminans, 131
Donaldson (**R.**), cerebro-spinal fever at Reading, 1915–16, 234
Dore (**S. E.**), keloid in girl aged 7, 125
Dubois abscesses, connection with syphilitic disease of thymus, 151
Dupuytren's contraction, congenital, 281
Durney (**E.**), open-air school child as a type, 156

Ear irritation causing gastric symptoms, 68
— middle, acute suppuration complications; diagnosis difficulties, 69
— — pea removed from, by post-aural operation, 48
— nose and throat, diseases of, in relation to child welfare, 67
Eczema, proteins in; cutaneous reactions, 148
Edebohl's operation in nephritis, 144
Edinburgh, medical inspection and supervision of school children in, 155
— Royal College of Physicians: Statement regarding proposed Ministry of Health, 74
Edridge-Green (**F. W.**), cause and prevention of myopia, 292
Electrocardiograph elucidation of heart arrhythmias, 136
— studies of congenital heart disease, 134

Ellis (**A. G.**), congenital absence of lung, 57
Embryoma testis, 145
Emphysema, subcutaneous, in diphtheria, 229
— — of pulmonary origin, 61
Empyema, interlobar, cured by simple puncture, 59
— parapneumonic, 59
— necessitatis followed by umbilical fistula, 287
Encina (**C. J.**), enterococcal otitis media, 69
Endocarditis, acute infective, due to *Streptococcus attenuans*, 135
— — of tonsillar origin; immediate tonsillectomy, 72
— congenital; acute vegetative inflammation of pulmonary artery and valve, 132
Endothelioma, post-nasal, 226
Enterococcal otitis media, 69
Enuresis, pituitrin in, 143
Eosinophilia following foreign protein, 127
Epiphysial development, delay of, in cretinism, 45
Epstein (**J.**), infantile pyloric stenosis, 277
Erythema iris (F. Parkes Weber), 115
— nodosum with tuberculosis (E. Bronson), 91
Erythromelalgia, 45
Eugenics and care of pregnant women, 56
Exostoses, multiple cartilaginous, 281
Exudative diathesis, see *Blood*.
Eye diseases, external, of elementary school children (Barbara Richardson), 201
— injured by liquid-core golf-ball, 292

Fæcal distension of the colon, 21
Farani (**A.**), double venereal infection in girl of six, 288
Feldstein (**E.**), treatment of adenoids in infants, 70
Femur, fractures of neck of, 282
Ferguson (**J. S.**), cardiac disease and the cardiac clinic, 135
Ferreira (**C.**), Mongolian blue spots at São Paulo, 149
Fetterolf (**G.**), see *Gittings* (J. C.).
Findlay (**L.**) and **Martin** (**W. B.**), varieties of congenital heart disease, 132
Fiori (**T.**), abscess of abdominal wall; ascarides discharged; recovery, 286
Fishberg (**M.**), diagnosis of pulmonary tuberculosis, 63
Fistula, umbilical, following empyema necessitatis, 287
Fleischmann (**O.**), oto-typhoid, 233
Fleischner (**E. C.**), immediate tonsillectomy in incipient acute endocarditis of tonsillar origin, 72
Fletcher (**H. Morley**), botulism, 274
Fœtal reflexes, 50
Foote (**J.**), pylorospasm and congenital pyloric stenosis, 277
— and **Hamilton** (**R.**), congenital occlusion of bile-ducts, 52
Foramen ovale, patent, with congenital dextrocardia, 133
Forbes (**H. H.**), removal of tonsil as a prophylactic measure, 71
Foreign body (collar-stud) in left bronchus; collapse of lung, 226
— — (pea) removed from middle ear by post-aural operation, 48
Forsyth (**D.**), care of children under school age, 156
Fowler (**J. S.**), radiography of thorax, 57
Fracture of skull followed by primary unilateral optic atrophy, 292
France, infantile kala-azar in, 120
Fraser (**J. S.**), diseases of ear, nose and throat in relation to child welfare, 67
Friedlander (**A.**), sarcoma of kidney treated by Roentgen ray, 142
Fronto-nasal tumour, congenital, 281
Frühwald (**R.**), condylomata acuminata, 146
Funaioli (**G.**), multiple malformations in stillborn fœtus, 51
Fundus examination, importance of, in infants after difficult delivery, 53

Gangrene, typhoid, 139
Gastric symptoms due to ear irritation, 68
Gaucher, five appendicitis cases in family of eight heredo-syphilitics, 151
Gaucher's disease, 130
Gauss (**H.**), congenital obliteration of aorta, 138
Gerdine (**L.**), parapneumonic empyema, 59
Gibson (**W. S.**), ætiology of phlyctenular conjunctivitis, 291
Gismondi (**A.**), treatment of impetigo and pyodermatitis, 149
Gittings (**J. C.**), **Fetterolf** (**G.**), and **Mitchell** (**A. G.**), topography of pulmonary fissures and lobes with reference to thoracentesis, 56
Glottis, spasm of, and convulsions in syphilitic rickets, 151
Goldsmid (**J. A.**), fatal hæmorrhagic dengue, 237
Goldsmith (**M.**), gastric symptoms due to ear irritation, 68
Goodman (**A. L.**), heart disease in infancy and childhood, 134
Gorter (**E.**), aplastic anæmia, 127
— interlobar empyema cured by simple puncture, 59
Gott (**T.**), early signs of post-diphtheritic paralysis, 229
Gould (**E. W.**) and **Le Wald** (**L. T.**), chloroma, 130
Graham (**E. E.**), prognosis and treatment of Banti's disease, 129

Grant (Dundas), foreign body (collar-stud) in left bronchus; collapse of lung, 226
— multiple papillomata of larynx, tracheotomy and removal under suspension laryngoscopy, 225
Graves (G. W.), colon bacillus pyelitis, 141
Greig (D. M.), congenital Dupuytren's contraction, 281
— fronto-nasal tumour, 281
— myxosarcoma of soft palate, 71
Griffiths (F. G.), wide propagation of a cardiac murmur, 135
Grulee (C. G.), rumination in first year, 276
Guidi (G.), primary tumour of anterior mediastinum, 58
Gurgel (N.), renal lithiasis, 141

HÆMANGIECTATIC hypertrophy of limbs—congenital phlebarteriectasis and so-called congenital varicose veins (F. Parkes Weber), 13
HÆMATEMESIS and melæna neonatorum, 52
HÆMATOMA of umbilical cord at childbirth; severe hæmorrhage following ligature, 53
HÆMOPHILIA, 223
— with effusion into knee-joint (Bernard Roth), 116
HÆMORRHAGE in newly-born, gastro intestinal; treatment, 54
— — — — serum, 53
— — — — direct transfusion, 54
Halliday (J. C.), injury to eye by bursting of liquid-core golf-ball, 292
Halsey (R. H.), elucidation of heart arrhythmias by electrocardiograph, 136
Hamilton (J. L.), plastic meatotomy, 145
Hamilton (R.), see *Foote* (J.).
Hartz (H. T.), complete transposition of viscera, 134
Harvie (J. B.), blue sclerotics with brittle bones, 291
Hassman (D. M.), see *Morse* (J. L.).
Have (W. A.), practical experiences in medical inspection of rural schools, 154
HEALTH, proposed Ministry of: statement by Royal College of Physicians of Edinburgh, 74
HEARING tests, practical, 69
HEART disease, clinical classification of, 135
— — congenital; can the clinical manifestations disappear with general growth and development? (F. Parkes Weber), 113
— — — electrocardiographic studies of, 134
— — — varieties of, 132
— — in infancy and childhood, 134
— lesions, congenital; new method of diagnosis, see *Hess* (J. H).
Heiser (V. G.), volvulus caused by roundworms, 287
Helmholtz (H. F.) and **Beeler (C.)**, focal lesions produced in rabbits by colon bacilli from pyelo-cystitis, 141
— see also *Beeler* (C.).
Hempelmann (T. C.), frequency of tuberculides and their relation to prognosis, 65
HERNIA, strangulated, 287
HERPES zoster of arm and hand, 30
Herrman (C.), measles, 231
Hess (A. F.), provocative and prophylactic vaccination in vaginitis, 147
Hess (J. H.), congenital atresia of right auriculo-ventricular orifice; absence of tricuspid valves, 133
— familial congenital cyanosis and new method of diagnosis of congenital heart lesions, 134
— unresolved pneumonia, 60
Hibbs (R. A.), treatment of deformities of spine from osteomyelitis, 289
Hickling (G. H.), tuberculous meningitis of unusually long duration, 65
HILUS infiltration, recurrent, 64
HODGKIN'S disease involving stomach, 128
van der Hoeve (J.) and **de Kleyn (A.)**, blue sclerotics, brittle bones and deafness, 291
Holmes (J. B.), congenital obliteration of bile-ducts, 51
Holmes (H. I.), nephrotomy for complete suppression of urine, 144
Horgan (J. B.), surgical treatment and cure of suppurative otitis media chronica, 31
Huber (F.), acute infective endocarditis due to *Streptococcus attenuans*, 135
HYDROCELE, infantile; ætiology, 145
HYDROPHOBIA; specific medication, 237
Hyman (A.), surgical diseases of urinary tract, 143
Hymanson (A.), non-parasitic chyluria and chronic nephritis, 140

ICTERUS, familial, of the newborn, 52
ILEOCOLITIS, acute, 278
IMPERFORATE hymen; large serocolpos, 146
IMPETIGO and pyodermatitis, treatment of, 149
INDICANURIA, 140
INFANTILISM, see *Osteomalacia*.
INFECTIOUS diseases, acute, vaccinotherapy in, 227
— — in relation to child welfare, 227
Ingham (J. H.), strangulated hernia, 287
INTERMITTENT fever from meningococcal septicæmia (A. Netter), 1
INTESTINAL atony, 278
— obstruction, congenital, 277
INTESTINE, small, congenital atresia of, 277
INTUSSUSCEPTION, 284
— acute; rational treatment, 285
— chronic, 285

INTUSSUSCEPTION, early recognition, 284
— recurrence in three weeks, 285
— two uncommon forms occurring simultaneously, 284

VON JAKSCH'S disease, nature of (G. Ward), 101
Jeanselme (E.), morbus cæruleus of syphilitic origin, 151
— significance of Carabelli's tubercle, 150
— and **Mme. Chatelain,** epidemic of familial syphilis, 122
Jeremy (H. R.), perithelioma of orbit, 273
Jessel (G.), residential treatment of delicate and pre-tuberculous children, 156
Jewell (W. H.), endothelioma of post-nasal space, 226
Jewesbury (R. C.), muscular spasm in a child, 269
Johnson (A. A.), see *McClanahan* (H. M.).
JOINTS, laceration and infection of (Capt. A. Mitchell), 214
Junior (M.), multiple cartilaginous exostoses, 281

KALA-AZAR, infantile, in France (Marcel Labbé, Targhetta and Ameuille), 120
Kaunitz (J.), mumps meningitis, 236
Kearney (J. A.), importance of eye-ground examination in infants after difficult delivery, 53
Kelley (E. R.), quantitative relationship of milk-borne infection, 227
KELOID in girl, aged 7 years, 125
Ker (Claude B.), infectious diseases and child welfare, 227
Kidd (A.), ascaridiasis simulating appendicitis, 287
KIDNEY, adeno-sarcoma of; removal; recovery, 142
— left, traumatic rupture of, 143
— polycystic disease of, 142, 143
— sarcoma of, 43
— — treatment by Roentgen ray, 142
Kinloch (J. P.), effect of vaccinia on well-being, 232
Kirmisson (E.) and **Trétiakoff,** adeno-sarcoma of right kidney; removal; recovery, 142
Klausner (E.), rare localisation of pediculi pubis, 149
KNEE-JOINTS, effusion into, in hæmophilia, 116
Knox (J. H. M.), acute myelogenous leukæmia, 129
— hæmorrhage in newborn treated by direct transfusion, 54
— value of von Pirquet test; autopsy findings, 66
Koplik (H.), paroxysmal tachycardia, 137
Kramer (G. B.) and **Birnberg (T. L.),** chloroma, 130
Künstler (M. B.), see *Leopold* (J. S.).

Labbé (Marcel), Targhetta and **Ameuille,** infantile kala-azar in France, 120
Lane (J. E.), perlèche, 276
Lane-Claypon (J. E.), organisation and administration in child-welfare work, 156
Lanford (J. A.), see *De Buys* (L. R.).
LARYNGEAL stridor, congenital, 73
LARYNX, multiple papillomata of, 220, 225
Lavergne (M.), acute lobar pneumonia, meningeal form, 59
— syphilitic meningitis and meningeal reactions, 152
Lee (J. M.), see *Berkley* (H. K.).
LEISHMANIOSIS, effect of ultra-violet rays in, 132
— interna, leucotoxins in, 237
Leitch (D. B.), acute syphilitic meningitis, 152
Leopold (J. S.) and **Bernard (A.),** non-protein nitrogenous constituents of blood and the phenolsulphonephthalein test, 139
— and **Künstler (M. B.),** polycystic disease of kidney, 142
LEUCOTOXINS in blood in leishmaniosis interna, 237
LEUKÆMIA, acute myelogenous, 129
— lymphatic, leukotoxic factor in, 129
— treated with benzol, 128
LEUKOTOXIC factor in leukæmia, 129
Le Wald (L. T.), see *Gould* (E. W.).
LICHEN planus, linear, 126
— scrofulosorum tuberculide eruption round tuberculin site, 149
LITHIASIS, renal, 141
Little (Graham), acne scrofulosorum, 47
— adenoma sebaceum: Pringle type, 46
— linear lichen planus, 126
LIVER and spleen, enlarged, 124
LOCAL authorities' responsibility in connection with maternity and child-welfare schemes, 55
LOCAL Government Board, President of, on Children's Year, 80
Lorey (A.), see *Stolkind* (E.).
Lozano (A. R.), migratory pneumonia, 60
Lucas (W. P.), coagulation of blood in purpura and hæmophilia, 224
Ludowici (E.), serum treatment of hæmorrhage of newly-born, 53
LUNG, congenital absence of, 57
— primary sarcoma of, 28
LUPOID tuberculosis of pharynx, etc., in congenital syphilitic, 49
LUPUS, acute erythematous, 148
LYMPHO-GRANULOMATOSIS infantilis, 131

McClanahan (H. M.) and **Johnson (A. A.),** 68 blood examinations in infancy, 127
McCord (C. P.), scope of practicable examination in routine school medical inspection, 154

McCulloch (H.), electrocardiographic studies of congenital heart disease, 134
Macewen (J. A. C.), two uncommon forms of intussusception occurring simultaneously, 284
MacGregor (A. S. M.), care of children under school age, 155
McKenzie (Dan), hints on tonsil-adenoid operation based on 5000 cases, 72
Mackenzie (H. W. G.) and **Battle** (W. H.), chronic intussusception, 2-5
Maggiore (S.), leucotoxins in blood in leishmaniosis interna, 237
Malaguerta (I.), fœtal reflexes, 50
MALARIA, aspects of, 236
— cerebral; unusual case, 236
MALFORMATION, congenital, of left temporo-maxillary and both hip-joints, 42
MALFORMATIONS, multiple, in stillborn fœtus, 51
Mantoux (C.), a fifth cusp and hereditary syphilis, 123
Marconi (A.), brittle bones and blue sclerotics, 290
Marfan (A. B.), spasm of glottis and generalised convulsions with facial phenomenon in syphilitic rickets, 151
— big, flabby belly in infancy, 278
Martelli (C.), ascitic hepato-myocardiac syndrome, 137
Martin (W. B.), see *Findlay* (L.).
Martini (E.), typhus fever, 233
MATERNITY and child-welfare schemes; local authorities' responsibility, 55
Matzinger (H. G.), cerebral defects and operation, 287
Meader (F. M.), diphtheria in New York State, 228
MEASLES and pertussis, morbidity and mortality, 231
— cultivation of micrococcus from blood in, 231
— (immunity), 231
— swelling of plica semilunaris as prodromal symptom, 231
MEATOTOMY, plastic, 145
MEATUS, right cartilaginous, occluded by cystic swelling, 47
MEDIASTINUM, anterior, primary tumour of, 58
MEGACOLON, notes on (C. G. Cumston), 21
Meikle (J. H.), medical inspection and supervision of school children in Edinburgh, 155
MELÆNA neonatorum and hæmatemesis, 52
MENINGEAL form of acute lobar pneumonia, 59
MENINGITIS, acute, in newborn, 55
— cerebro-spinal, 233
— — serum reactions in, 234
— meningoccus, in newborn, 55
— mumps, 236
— pneumococcal, 18
MENINGITIS, syphilitic, acute, 152
— — and meningeal reactions, 152
— tuberculous, study of blood in, 65
— — unusually long duration, 65
MENINGOCOCCAL septicæmia, intermittent fever from, 1
MENINGOCOCCUS isolated in cerebro-spinal fever, 234
— meningitis in newborn, 55
MENTAL defectives, see *Defectives.*
Meyer (E.), swelling of plica semilunaris as prodromal symptom of measles, 231
Michael (M.), prophylactic vaccination against chickenpox, 232
Michie (H. C.), tuberculosis survey of Alaska Eskimo village, 64
Mikhailow (N. A.), pituitrin in enuresis, 143
MILK-BORNE infection, 227
Miller (D. J. M.), meningococcus meningitis in newborn, 55
Miller (H. T.), unusual malposition of appendix, 286
Mitchell (Capt. A.), laceration and infection of joints, 214
Mitchell (A. G.), see *Gittings* (J. C.).
Mitchell (A. P.), primary tuberculosis of faucial tonsils, 64
— surgical tuberculosis and child-welfare, 67
MITRAL disease and left recurrent paralysis, 136
— stenosis, 135
MOLE in centre of vitiligo patches, 43
MOLLUSCUM contagiosum, agminated, 224
MONGOLIAN blue spots at São Paulo, 149
Moore (Irwin), lupoid tuberculosis of pharynx in congenital syphilitic, 49
Moore (J. W.), see *Tuley* (H. E.).
Moore (Sir John), burns and scalds as cause of child disablement and death, 280
Moran (H. M.), embryoma testis, 145
MORBUS cæruleus of syphilitic origin, 151
— cordis, congenital, 223
Morgan (E. A.), blood in tuberculous meningitis, 65
Morgan (H. J.), congenital dextrocardia with patent foramen ovale, 133
Morgan (R.), diagnosis of tuberculosis, 63
MORPHŒO-SCLERODERMIA, multiple, 46
Morse (J. L.), Edebohls' operation in nephritis, 144
— D'Espine's sign in childhood, 57
— and **Hassman** (D. M.), effect of cold air on blood-pressure in pneumonia, 61
— and **Wohlbach** (S. B.), pernicious anæmia, 128
MYOPIA, cause and prevention, 292
MYXOSARCOMA of soft palate, 71

Nachmann (O.), serum anti-anaphylaxis, 229

Nævus, extensive, of trunk and extremities, 46
Naso-pharyngeal infections, see *Tonsillar.*
Naughtiness, abnormal, in normal children (J. Thomson), 268
Nephritis, chronic, and non-parasitic chyluria, 140
— Edebohl's operation in, 144
— hypertension in, 140
— interstitial, with other conditions, 44
Nephrotomy for complete suppression of urine, 144
Netter (Arnold), intermittent fever from meningococcal septicæmia, 1
Newborn child of 25 lbs., 50
New York State, diphtheria in, 228
Nose with four nostrils, 49
Nystagmus, familial, 290

Œsophagus, fusiform dilatation of, 48
Oliver (J.), syphilitic disease of thymus; origin of Dubois abscesses, 151
Open-air schools, 156
Ophthalmoplegia, congenital; ætiology, 290
Optic atrophy, primary unilateral, following skull fracture, 292
Orbit, perithelioma of, 273
Osteo-chondritis juvenilis of hip, 288
Osteogenesis imperfecta, 224
Osteomalacia and infantilism with horseshoe kidney and interstitial nephritis, 44
— — with renal deficiency, 44
Osteomyelitis, series of severe cases, 283
Otitis media, acute, 68
— — chronica, suppurative; surgical treatment and cure (J. B. Horgan), 31
— — enterococcal, 69
Otology, retrospect of (1917), 39
Oto-typhoid, 233
Ottenberg (R.), see *Packard* (M.).

Packard (M.) and **Ottenberg (R.),** leukotoxic factor in lymphatic leukæmia, 129
Palate, soft, myxosarcoma of, 71
Panayotabon (Mme. G.), two cases of pneumococcal meningitis, 18
Pan-laryngitis, obstructive and adhesive, after tracheotomy, 73
Papillomata, multiple, of larynx; removal after tracheotomy, see *Tod* (Hunter) and *Grant* (Dundas).
Paralysis, left recurrent, and mitral disease, 136
— post-diphtheritic; early signs, 229
Paramedian sinuses, congenital, of lower lip, 275
Paratyphoid B infection followed by cancrum oris, 233
— fever in children (E. Stolkind and A. Lorey), 161
Parker (C. A.), fracture of neck of femur, 282
Parkinson (J. Porter), anæmia, 274
— congenital morbus cordis, 223
— enlarged liver and spleen, 124
— primary sarcoma of lung, 28
Paterson (N.), excision of retro-pharyngeal gland for tubercular abscess, 48
Pediculi pubis, rare localisation of, 149
Pelvis, fracture of, with rupture of bladder; recovery, 282
Péneaud (J. C. M.), purpura fulminans, 131
Pericarditis complicating pneumonia, 135
Perithelioma of orbit, 273
Perlèche: bacteriology, symptoms and treatment, 276
Pernet (G.), congenital urticaria pigmentosa (correspondence), 76
— extensive nævus of trunk and extremities, 46
— herpes zoster of arm and hand, 30
— multiple morphœo-sclerodermia, 46
— partial sclerema neonatorum, 218
Perthes' disease; ætiology, 288
Pertussis and measles, morbidity and mortality, 231
Peskind (A.), intussusception; recurrence in three weeks, 285
Pettibone (C. J. V.) and **Schlutz (F. W.),** amino-acid nitrogen in systemic blood, 126
Phelps (K. A.), sinusitis, 70
Phenolsulphonephthalein test, and the non-protein nitrogenous constituents of the blood, 139
Phlebarteriectasis, congenital, see *Weber* (F. Parkes).
von Pirquet test, value of; autopsy findings, 66
Pituitrin in nocturnal incontinence of urine, 143
Plastic meatotomy, 145
Plica semilunaris, swelling of, in measles, 231
Pneumococcal infection, epidemic, in newborn, 55
— meningitis (Mme. G. Panayotabon), 18
Pneumococcus in stillbirth, 54
— types in pneumonia, 59
Pneumonia, acute lobar, meningeal form of, 59
— complicated by pericarditis, 135
— effect of cold air on blood-pressure in, 61
— massive right lobar; rapidly fatal, 61
— migratory, 60
— traumatic or contusional, 60
— types of pneumococcus in, 59
— unresolved, 60
— unusually short duration, 60
Poliomyelitis causing deformities of spine; treatment, 289
Polycystic disease of kidney, 142, 143

POLYPUS, hairy, of nasopharynx; teratoid growth on, 225
Porcelli (R.), bacteriology of whooping-cough, 235
Porcelli-Titone (F.), effect of ultra-violet rays in leishmaniosis, 132
Post (A.), clinical course and physical signs of hereditary syphilis, 150
POTT'S disease simulated by cervical rib, 282
Potts (W. A.), tests of mental defectives for future work, 157
PRECOCITY, sexual (boy), 145
PREGNANCY in child of 14 (J. Burnet), 119
PREGNANT women, eugenics and care ot, 56
Priestley (J.) and **Richardson (Barbara)**, tuberculosis as seen in public elementary schools, 183
Pritchard (Eric), congenital morbus cordis, 223
— enlarged suprarenals and sudden death, 125
— hæmophilia, 223
PROTEINS in eczema, cutaneous reactions from, 148
PULMONARY artery and valve, acute vegetative inflammation of, in congenital endocarditis, 132
— topography and thoracentesis, 56
PURPURA fulminans, 131
— in serum disease, 131
— and hæmophilia, coagulation of blood in, 224
PYELITIS, colon bacillus, in boys, 141
— mode of infection, 141
PYELO-CYSTITIS, colon bacilli from, producing focal lesions in rabbits, 141
PYLORIC stenosis, congenital hypertrophic, 284
— — — and pylorospasm, 277
— — infantile, 277
PYLOROSPASM and congenital pyloric stenosis, 277
PYODERMATITIS and impetigo, treatment of, 149

Rachford (B. K.), epidemic vaginitis, 146
Railliet (G.), whooping-cough in infant and newborn, 54
Ramaroni, preputial calculi, 144
Randone (F.), cerebrospinal meningitis, 233
Ravenel (M. P.), transmission of bovine tuberculosis, 66
Reiman (S. P.), Hodgkin's disease involving stomach, 128
Renault (J.) and **Romme**, cervical rib simulating Pott's disease, 282
RETRO-PHARYNGEAL gland, excision for tubercular abscess, 48
Reuben (M. S.), fever—the initial sign of tuberculous infection in children, 63
— Gaucher's disease, 130
— tuberculosis following ritual circumcision, 66
REVIEWS: 'Archivos Españoles de Pediatria,' 77; G. Draper's 'Acute Poliomyelitis,' 77; J. E. Wallace Wallin's 'Problems of Subnormality,' 78; A. Coolidge's 'Adenoids and Tonsils,' 79; 'University of Iowa Monographs—Studies in Medicine,' 79; W. M. Feldman's 'The Jewish Child, its History, Folklore, Biology and Sociology,' 159; A. S. MacNalty's 'Report on Prevention of Mortality and Disablement due to Measles and Pneumonia in Children,' 160; M. Nicoll's 'Dream Psychology,' 237; Ruhräh and Mayer's 'Poliomyelitis,' 238; 'Staffordshire County Council Education Committee School Medical Officer's Report, 1916,' 240; 'Transactions of American Pediatric Society,' 293
RHEUMATISM and the tonsils, 71
Richards (G. L.), hearing tests from a practical standpoint, 69
Richardson (Barbara), external eye diseases of elementary school children, 201
— see also *Priestley* (J.).
Rimetz (P.), acquired syphilis in children, 153
Rivers (W. C.), juvenile consumption and school attendance, 6
Roberts (P. W.), ætiology of Perthes' disease, 288
ROENTGEN ray treatment of sarcoma of kidney, 142
Romanelli (E.), cancrum oris following paratyphoid B infection, 233
Romano (B.), serum reactions in cerebrospinal meningitis, 234
Romme, see *Renault* (J.).
Roth (Bernard), hæmophilia with effusion into knee-joints, 116
— osteogenesis imperfecta, 224
Rothholz (A. S.), see *Crowe* (S. J.).
Roux (A.), relapsing phlebitis of tributaries of inferior vena cava, 138
ROYAL Society of Medicine, Section for the Study of Disease in Children, 42, 124, 223, 273
— — — of Dermatology, 46, 125
— — — of Laryngology, 48, 225
— — — of Otology, 47
Royster (L. T.), polycystic kidney, 143
Rubin (I. C.), vaginal discharge, 255 cases; value of smear examinations, 147
RUMINATION in the first year, 276
Rutelli (G.), morphological and biological changes in meningococcus isolated in cerebro-spinal fever in Palermo, 234

StGeorge (A. V.), congenital intestinal obstruction, 277
StLawrence (W. P.), clinical classification of heart disease, 135

Salivary fistula following simple mastoidectomy with cervical abscess, 283
Salvarsan in ante-natal treatment of congenital syphilis, 153
São Paulo, Mongolian blue spots at, 149
Sarcoma of kidney; metastatic deposits in skull, 43
— — treated by Roentgen ray, 142
— primary, of lung, 29
Scabies, albuminuria in, 148
Scarlatina, complications of, 230
Schlutz (F. W.), see *Pettibone* (C. J. V.).
School attendance and consumption, 6
— medical inspection; scope of practicable examination, 154
— — — in rural sections, practical experiences in, 154
— — — and supervision in Edinburgh, 155
Schools, elementary, external eye diseases in, 201
— — tuberculosis in, 183
— open-air, 156
Schreiber (F. C.), salivary fistula following simple mastoidectomy, 283
Schuyler (W. J.), indicanuria, 140
Schwartz(A. B.), bacteriology of urine in vulvo-vaginitis, 146
Sclerema neonatorum, partial; treatment (G. Pernet), 218
Sclerodactyly, 46
Scott (A. J.), hypertrophic pyloric stenosis, 284
Scott (Sydney), latent lateral sinus tuberculosis, 70
Sequeira (J. H.), sclerodactyly, 46
Serocolpos, large; imperforate hymen, 146
Serum anti-anaphylaxis, 229
— disease, purpura in, 131
— — intestinal phenomena in, 229
— treatment of hæmorrhage of newly-born, 53
— — of meningitis, 3, 18
— (horse), treatment of diphtheria, 230
Sexual precocity (boy), 145
Sherman (H. M.), repair of cleft palate, 283
Simonini (R.), pathology of congenital funnel-shaped thorax, 282
Sincerbeaux (J. C.), typhoid fever, 233
Sinus, lateral; latent tuberculosis of, 70
Sinusitis, 70
Skin defects, congenital, 50
Smallpox in childhood (H. W. L. Barlow), 110
Smear examinations in vaginal discharge, value of (255 cases), 147
Smith (A.), eugenics and care of pregnant women, 56
Smith (A. L.), perlèche: its bacteriology, symptoms and treatment in 223 cases, 276
Smith (R. M.), pyelitis—mode of infection, 141
Solomons (B.), hæmatemesis and melæna neonatorum, 52
Soudier (Mlle. le), subcutaneous emphysema in diphtheria, 229
Spasm, muscular (R. C. Jewesbury), 269
Spicer (F.), bradycardia, 137
Spleen and liver, enlarged, 124
Squarti (G.), subcutaneous emphysema of pulmonary origin, 61
Status lymphaticus, cause of sudden death in, 131
di Stefano (S.), cholesterin content of blood in exudative diathesis, 127
Still (G. F.), the cœliac disease, 279
Stillbirth, pneumococcus found in, 54
Stimson (P. M.), multiple cartilaginous exostoses, 281
Stolkind (E.) and **Lorey (A.)**, paratyphoid fever in children, 161
Stone (R. E.), see *Bloom* (C. J.).
Strauch (A.), sexual precocity (boy), 145
Streptococcus attenuans and acute infective endocarditis, 135
— infection, skin manifestations, 148
Sudden death; enlarged suprarenals, 125
— — in status lymphaticus, cause of, 131
Suppression of urine, complete; nephrotomy, 144
Suprarenals, enlarged; sudden death, 125
Sutherland (G. A.), see *Bronson* (E.).
Sylvester (P. H.), treatment of hereditary syphilis, 153
Symmers (D.), cause of sudden death in status lymphaticus, 131
Syphilis, acquired, in children, 153
— comparison of luetin and Wassermann reactions, 152
— congenital, ante-natal treatment with salvarsan, 153
— — contagiousness of, 150
— — significance of certain dental stigmata, 150
— familial, epidemic of (E. Jeanselme and Mme. Chatelain), 122
— hereditary, and a fifth cusp (C. Mantoux), 123
— — clinical course and physical signs, 150
— — familial; appendicitis in, 151
— — treatment, 153
— see also *Wassermann reaction.*
Syphilitic disease of thymus; origin of Dubois abscesses, 151
— meningitis, acute, 152
— — and meningeal reactions, 152
— morbus cæruleus, 151
— rickets, spasm of glottis and convulsions with facial phenomenon in, 151

Tachycardia, paroxysmal, 136, 137
Talbot (F. B.), asthma; relation to anaphylaxis, 58
— energy metabolism of amaurotic family idiot, 290

Targhetta, see *Labbé*.
Taylor (H. L.), fractures of neck of femur, 282
Taylor (S. J.), membranous conjunctivitis after squint operation, 292
Teeth in congenital syphilis, 150
Teething conditions simulating disease (J. Burnet), 26
Temporo-maxillary and both hip-joints, congenital malformation, 42
Teratoid growth on hairy polypus of nasopharynx, 225
Testis, embryoma, 145
Thompson (R.), urinary disease, 81
Thomson (A.), arthroplasty in ankylosis, 289
Thomson (J.), abnormal naughtiness in normal children, 268
Thomson (Sir StClair), fusiform dilatation of œsophagus, 48
— nose with four nostrils, 49
Thoracentesis, study of pulmonary topography with special reference to, 56
Thorax, congenital funnel-shaped; pathology, 282
— radiography of, 57
Thorp (E.), observations on the vaccination mark, 156
Thrombophlebitis complicating varicella, 232
Thymus, syphilitic disease of; origin of Dubois abscesses, 151
Tod (Hunter), multiple papillomata of larynx removed by operation (suspension) after tracheotomy; death from acute membranous tracheitis and bronchitis, 220
Tonsil question in children, 71
— removal as a prophylactic measure, 71
Tonsil-adenoid operation, hints based on 5000 cases, 72
Tonsillar and naso-pharyngeal infections, relation to general systemic disorders, 72
Tonsillectomy, hæmorrhage following, 72
— immediate, in incipient acute endocarditis of tonsillar origin, 72
Tonsils and rheumatism, 71
Toomey (N.), congenital paramedian sinuses of lower lip, 275
— congenital persistent acroasphyxia, 137
Torrance (G.), intussusception, 284
Tracheotomy followed by obstructive and adhesive panlaryngitis, 73
Trethowan (W. H.), see *Cameron* (H. C.).
Tretiakoff, see *Kirmisson* (E.).
Tricuspid valves, absence of, see *Hess* (J. H.).
Triollet (L.), treatment of gastro-intestinal hæmorrhages in newly-born, 54
Tuberculides and their relation to prognosis, 65
Tuberculin injection; eruption of tuberculides (lichen scrofulosorum type) round site, 149
Tuberculosis, bovine infection of, 62
— — transmission of, 66
— following ritual circumcision, 66
— in Alaska Eskimo village, 64
— infection in infants, fever the initial sign of, 63
— in public elementary schools (J. Priestley and Barbara Richardson), 183
— latent, of lateral sinus, 70
— miliary, infantile, 61
— of the pons, 65
— primary, of faucial tonsils, 64
— pulmonary, diagnosis of, 63
— — in first two years of life, 62
— surgical, and child-welfare, 67
— with erythema nodosum, 91
Tuberculous buboes, symmetrical, 66
— meningitis of unusually long duration, 65
— — study of blood in, 65
Tuley (H. E.) and **Moore (J. W.)**, congenital endocarditis with acute vegetative inflammation of pulmonary artery and valve, 132
Tumour, primary, of anterior mediastinum, 58
Tunnicliff (Ruth), cultivation of micrococcus from blood in measles, 231
Turck (F. B.), intestinal atony, 278
Typhoid fever, 139, 233
Typhus fever, 233

Ubersfeld (H.), albuminuria in scabies, 148
Ultraviolet rays, effect in leishmaniosis, 132
Umbilicus, adenoma of, 281
Urinary disease (R. Thompson), 81
— tract, surgical diseases, 143
Urine, bacteriology of, 139, 146
Urticaria, bullous, in baby, 47
— pigmentosa, congenital; ? syphilitic (letter from G. Pernet), 76

Vaccination mark, 156
— prophylactic, against chickenpox, 232
Vaccine lymph, injection of, 232
— prevention of whooping-cough, 236
— treatment of vaginitis, provocative and prophylactic, 147
— — of vulvo-vaginitis, 147
Vaccinia, effect on well-being, 232
Vaccinotherapy in acute infectious diseases, 227
Vaginal discharge—255 cases; value of smear examinations, 147
Vaginitis, epidemic, 146
— provocative and prophylactic vaccination in, 147
Yaglio (R.), infantile hydrocele, 145
Vargas (M.), obstructive and adhesive panlaryngitis after tracheotomy, 73
— periumbilical cutaneous agenesis; appendicectomy, 51

Vargas (M.), symmetrical tuberculous buboes in girl aged 5, 66
— umbilical fistula following empyema necessitatis, 287
Varicella complicated by thrombophlebitis, 232
Varicose veins, so-called congenital, see *Weber* (F. Parkes).
Variot (G.), congenital laryngeal stridor, 73
Yeeder (B. S.), morbidity and mortality of pertussis and measles, 231
Vena cava, inferior, obliteration of, 138
— — relapsing phlebitis of tributaries, 138
Venereal infection, double, in girl of six, 288
Vinache (A.), typhoid gangrene, 139
Viscera, abnormal, 134
— complete transposition of, 134
"Vitamine" or "food deficiency" theory in its application to infantile beri-beri, 258
Vitiligo patches with central pigmented mole, 43
Volvulus caused by round-worms, 287
Vulvo-vaginitis, bacteriology of urine in, 146
— vaccine treatment, 147

Waetzoldt (G. A.), nasal diphtheria, 228
Walker (R. A.), series of severe cases of osteomyelitis, 283
Wall (J. S.), significance of certain dental stigmata of congenital syphilis, 150
Walshe (Major F. M. R.), the "food deficiency" or "vitamine" theory in its application to infantile beri-beri, 258
Wang (Chung Y.), incidence of bovine infection of tuberculosis, 62
Ward (Gordon), nature of von Jaksch's disease, 101
Wassermann reaction, value of, in newly-born, 153
— and luetin reactions, comparison of, 152
Watkins (S. S.), see *Crowe* (S. J.).
Waugh (G. H.), case of anaphylaxis, 37
Weber (F. Parkes), Can clinical manifestations of congenital heart disease disappear with general growth and development? 113
Weber (F. Parkes), erythema iris, 115
— hæmangiectatic hypertrophy of limbs—congenital phlebarteriectasis and so-called congenital varicose veins, 13
— remarks on R. C. Jewesbury's case of muscular spasm, 269
— traumatic or contusional pneumonia, 60
Werther, contagiousness of hereditary syphilis, 150
Wessler (H.) and **Bass (M. H.)**, recurrent hilus infiltration, 64
Whiteford (C. H.), adenoma of umbilicus, 281
Whooping-cough, bacteriology of, 235
— in the infant and newborn, 54
— vaccine prevention, 236
— see *Pertussis.*
Widmer (H.), intestinal phenomena in serum disease, 229
— purpura in serum disease, 131
Wiener (S.), imperforate hymen; large serocolpos, 146
Winter (W. A.), problem of education of physically defective children, 157
Wohlbach (S. B.), see *Morse* (J. L.).
Wollstein (M.) and **Benson (A. W.)**, types of pneumococcus found in pneumonias, 59
Wood (T. J.), congenital hypertrophic stenosis of pylorus, 284
Worms causing abdominal abscess, 286
— — volvulus, 287
— see also *Ascaridiasis.*
Wright (J. D.), auricular education of deaf children, 69
— the deaf child from standpoint of the educator, 157

Yawger (N. S.), familial head nystagmus, 290
Yearsley (M.), retrospect of otology (1917), 39
Yerington (H. H.), value of Wassermann reaction in newly-born, 153

Zadek (I.) and **Barnett (E. L.)**, importance of ankle ligaments in correction of congenital club-foot, 289

ADLARD AND SON AND WEST NEWMAN, LTD., LONDON AND DORKING.

RJ
1
B7
v.14-15

Biological
& Medical
Serials

The British journal of
children's diseases

PLEASE DO NOT REMOVE
CARDS OR SLIPS FROM THIS POCKET

UNIVERSITY OF TORONTO LIBRARY

STORAGE